PROGRESS REPORT

OF

FOREST ADMINISTRATION

IN THE

HYDERABAD ASSIGNED DISTRICTS

FOR

1887-88.

WITH A REVIEW BY THE RESIDENT AT HYDERABAD.

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From

Colonel H. C. A. SZCZEPANSKI,

Commissioner, Hyderabad Assigned Districts,

To

The SECRETARY for BERAR to the RESIDENT,

Hyderabad.

Dated Amraoti, *24th August* 1888.

Sir,

I have the honour to submit herewith the Report of the Conservator of Forests on the Administration of the Forest Department during the year 1887-88.

2. Rules under the Berar Forest Law and for the regulation of unreserved forests have been prepared and submitted to the Resident, and correspondence in respect of the former is still in progress.

3. The only change in the forest area of the province during the year under report consisted of a decrease of 25 square miles in district unreserved forests.

4. This decrease included 1,675 acres given up for cultivation from grazing lands B in the Wun District, and the Deputy Commissioner will be requested to explain what appears to be a contravention of the rules for the management of district forests.

5. The Deputy Commissioners of Akola, Basim, and Buldana have been instructed not to give out any more land for cultivation in those districts till proposals are made and sanctioned for fixing the grazing areas.

6. The unsatisfactory condition of the boundary marks in the grazing areas of the Amraoti District commented on in the previous year's Report has been remedied at a cost of Rs. 1,873.

7. The survey of the Melghat Taluk, which was nearly finished on the date of the Report, has since been completed, and the settlement of the boundary line between the Melghat and the Central Provinces will, no doubt, be soon concluded.

8. The following figures show the number of breaches of the Forest Law during the past three years and the result :—

	1885-86.	1886-87.	1887-88.
Number of cases	422	406	387
Number of convictions... ...	348	309	318
Percentage of convictions to prosecutions	82·66	76·48	82·77

There is thus a decrease in the number of violations of the law, and the percentage of convictions is satisfactory.

The number of cases is not large, and may be taken to imply that the rules are not generally irksome to the people, while the high percentage of convictions shows that they are worked efficiently.

9. The area protected from fire is about the same as in 1886-87, and the expenditure on protection is slightly less. The result, however, is most unsatisfactory, and, as in previous years, it is in the Wun District that the greatest ravages occurred.

10. The following figures show that during the past five years the failures in the Wun District alone far exceed those in all the other districts put together :—

	1883-84.	1884-85.	1885-86.	1886-87.	1887-88.	Total.
Berar ...	48,411	14,680	28,342	14,769	28,918	135,120
Wun ...	44,658	10,788	23,508	11,419	21700	112,073

so that about 83 per cent. of the failures in the province occur in the Wun District.

11. It is, of course, well known that the difficulties in the way of fire protection are greater in Wun than in any other district; but if, as implied by the Conservator in paragraph 47 of his Report, the notoriety of this district for forest fires is due in any degree to the apathy of the District Officers and Magistrates, the evil is not wholly irremediable, and an attempt will be made to bring about an improvement.

12. Grazing on passes was introduced in 1887-88 in the districts of Akola, Basim, and Buldana to the great relief of the people.

The system of putting up the right of grazing to auction no longer exists in the province.

13. The increase in the number of cattle paying grazing dues (paragraph 54) from 830,291 in 1886-87 to 1,453,419 in the year under report is, no doubt, due in a great measure to improved registration, and further improvement may still be expected to the advantage of our forest revenue.

14. The views of the present Conservator on the subject of natural reproduction and broadcast sowing are opposed to those of his predecessor Colonel vanSomeren, but the experience of another year's working of the department appears desirable in this connection before a decision is arrived at on the points at issue.

15. Mr. Whittal's objections (paragraph 62) to artificial reproduction of other than timber trees, that it scarcely falls within the province of the Forest Department and might lead to competition with private industry, may properly form the subject of a separate reference.

16. The summary of produce removed from the forests is given in paragraph 74 of the Report, and shows an increase under all heads. It is satisfactory to observe that the trade in bamboos has somewhat recovered from the depression noticed in the Report of the previous year.

17. The following are the broad financial results of the last two years :—

	1886-87.	1887-88.	Increase.
Revenue	3,26,447 ...	4,06,247 ...	79,800
Expenditure	1,71,510 ...	1,83,160 ...	11,650
Surplus	1,54,937 ...	2,23,087 ...	68,150

The revenue increased under all heads except minor produce, and miscellaneous expenditure was greater, chiefly owing to the payment of arrears to village officers for collecting forest dues, also to increased expenditure under roads and bridges. The surplus is the largest on record.

18. The Conservator has added an interesting appendix to his Report, in which he discusses certain questions lying outside the ordinary routine of the department. He has shown that the great bulk of the forest produce comes from the unreserved forests, where forest conservancy does not exist, and of which the area (in West Berar) is decreasing owing to the absorption of open forest land for cultivation; and he argues that, what with the absence of forest conservancy and the diminishing area of open forests, a fuel and timber famine is inevitable at a period not far distant, while the grazing areas available will be quite insufficient.

19. The remedies proposed by the Conservator are to classify the open forests in West Berar, and afterwards to permit no land, except areas set apart for the purpose, to be given out for cultivation, and next to increase the timber and fuel areas wherever practicable.

20. The classification of the unreserved forests of West Berar is under consideration, and meanwhile the Deputy Commissioners have been directed, as stated in paragraph 5 above, to give out no more land for cultivation. Specific proposals to increase the timber area of the province will, no doubt, receive due consideration.

The Conservator has shown how he would preserve the open Melghat forests from deterioration.

21. The subject of light grazing in the State reserves is considered in paragraphs 42 to 85 of the appendix to the Conservator's Report, and is condemned without remission as being wrong both in theory and practice. The introduction of light grazing in the State forests from June to October dates from the year 1884, when it was first permitted on the recommendation of Mr. Drysdale, the then Conservator. Colonel vanSomeren, Mr. Drysdale's successor, observed in his Report for 1884-85 that the forests were on the whole benefited by light grazing, as the removal of the heavy grass had aided natural reproduction. The Government of India in reviewing the Report, while observing that the temporary opening to sheep grazing of forests in the stage of reproduction was frequently resorted to in Europe as the cheapest and yet a sufficiently effective way of weeding, at the same time remarked that the efficacy of the practice depended entirely upon local circumstances. The remarks in the Government review of the Report for 1885-86 were even more guarded, for it was merely noted that no ill effects were reported to have resulted from light grazing in the State reserves of South Berar, and that even some of the success of natural reproduction had been attributed by the Conservator to this cause. The hesitation of Government to accord its approval of light grazing in State forests was, however, more apparent in the review of the Report for 1886-87. Colonel vanSomeren had commended the practice, in paragraphs 46 and 50 of his Report, as suited to the actual conditions of many of the forests in Berar, and he did not appear to attach much weight to the arguments of those who condemned the system of light grazing when the subject was discussed at the Forest Conference at Dehra Dun in the previous October. The Resident also, in reviewing the Report, expressed his full concurrence in the Conservator's opinion, which was agreed in besides by the late Commissioner, that light grazing under certain conditions, not only does no harm, but is actually beneficial. Looking at the question apart from its departmental aspect, Mr. Cordery believed it to be both injudicious and unnecessary to debar villages from the exercise of immemorial rights in tracts which were not fenced off for direct planting purposes.

22. The Government of India did not, however, altogether accept these views. While conceding that light grazing might be advantageous at certain stages of forest growth and under efficient supervision, it was held to be unquestionable that there are certain conditions in which the lightest grazing does very serious damage. The greatest care and discrimination were therefore enjoined, and it was expected that even light grazing would not be readily permitted where, especially in the earlier stages of forest growth, it could hardly fail to be harmful.

23. I have summed up the history of this subject in Berar at perhaps considerable length, as it is unquestionably one of great importance in connection with the future well-being of our State reserves, and I think it desirable that a *resumé* of the salient facts of the case down to the period of the last Report should precede the consideration of Mr. Whittal's present memorandum on the subject.

24. The Conservator and his immediate predecessor, Mr. Dansey, utterly condemn the system of light grazing in our State forests. They maintain that it is wrong in theory and not feasible in practice. The value of the arguments against the theory can be best appraised by a competent forest officer who has had long and continued experience of the conditions of our forests; but the practical objections, as detailed in paragraph 50 of the Appendix, are obvious to all. The Conservator shows—I think with much force—that owing to the grogarious habits of the cattle, the necessity under which the herdsmen lie to keep them together for fear of wild animals, the fact that they will not graze beyond a certain distance from their houses and will continue grazing over the same area, demonstrate the correctness of the conclusion arrived at by the Conservator that light grazing really means heavy grazing over a certain area and no grazing over the rest.

25. It is desirable that a fixed policy should be adopted and maintained; at the same time it may be observed that to deprive the people of the privilege they have enjoyed for the past four years of grazing the cattle in the reserves during the rainy season would be to impose a hardship which only imperative reasons could justify. If it be decided that light grazing in the State forests must ultimately cease, I would recommend that a reserve should not be closed until it can be shown that the people affected have no legitimate grievance, or that additional grazing areas have been made available to compensate for their exclusion from the reserve.

26. Mr. Whittal has submitted an interesting and valuable Report, which can hardly fail to be conducive to the best interests of forest administration in Berar.

I have the honour to be,

Sir,

Your most obedient Servant,

H. C. A. SZCZEPANSKI, Colonel,

Commissioner, Hyderabad Assigned Districts.

No. 708 of 1888-89.

From

R. WHITTALL, Esquire,

Officiating Conservator of Forests,

Hyderabad Assigned Districts,

To

The COMMISSIONER,

Hyderabad Assigned Districts.

Dated Amraoti, 10*th July* 1888.

Sir,

I have the honour to forward, for submission to the Resident, the Report on Forest Administration in the Hyderabad Assigned Districts for the year 1887-88.

INTRODUCTION.

Colonel G. J. vanSomeren, Conservator of Forests, Hyderabad Assigned Districts, went on furlough, giving over charge of the Circle on the 27th July 1887 to Mr. E. P. Dansey, whom I again relieved on the 2nd December 1887.

2. Mr. J. Ballantine, Officiating Deputy Conservator of Forests, was seconded for service in His Highness the Nizam's Dominions and left Berar on the 19th July 1887.

3. Mr. L. A. W. Rind was transferred to Upper Burma on promotion, leaving on the 10th November 1887.

4. Mr. G. F. Prevost, Deputy Conservator of Forests, succeeded Mr. Ballantine in the charge of the Ellichpur Division, taking over charge on the 19th July 1887.

5. The Basim Division was placed in charge of Ranger Bhukan after Mr. Prevost's departure and until the 24th February 1888, when, his services being urgently required on the Melghat survey work, he was relieved by Mr. G. F. Taylor.

6. The Akola Division was in charge of Mr. L. A. W. Rind until his departure. He was succeeded by Mr. Taylor on the 10th November 1887, who held and still holds the Division as a second charge.

7. The Buldana Division was in charge of Mr. Rasul Khan, Sub-Assistant Conservator of Forests, throughout the year, except for three months, when he was on privilege leave, Mr. Rind being in charge.

8. The Amraoti Division was in charge of Mr. Taylor until the 2nd March 1888, when I took over the Division as a temporary measure and in addition to my own duties to permit of Mr. Taylor going to Basim to relieve Ranger Bhukan.

9. The Wun Division was held throughout the year by Mr. Mansukh Rai.

CHAPTER I.—Area and Boundaries.

Area.

10. The subjoined statement shows the area of forest lands. The classification is that of Government of India Circular No. 4-F. of the 23rd April 1887, but as there is no "Forest Act" in Berar, I have not shown anything under "A." And of the different classes under "B," I have shown the forest lands under the names used in, and ordered by, the Berar Forest Rules of 1871, which still hold good :—

Description of Forests.	Area in square miles.				Percentage of forest area to area of province.
	On 1st April 1887.	Added during the year.	Excluded or transferred to other heads.	Area on 31st March 1888.	
B.					
Demarcated State Forests ...	1,107	...	...	1,107	6·2
District Reserved Forests ...	435	...	...	435	2·5
District Unreserved Forests ...	2,599	31	56	2,574	14·5
Total ...	4,141	31	56	4,116	23·2

11. In the Demarcated State Reserves there has been no change. It is only right, however, to mention that the 50,973 acres of the Amraoti Hills Reserve have been wrongly entered in previous reports. Only portion, *viz.*, 8,123 acres, called the Chirodi Reserve, have really been sanctioned as a Demarcated State Reserve by the Resident. The remainder is not a Demarcated State Reserve, nor ever has been. I have not, however, removed it from the list, because the new Berar Forest Law will in all probability include the whole area as a State Reserve, and the new Berar Forest Law will, I hope, shortly come out.

12. In the District Reserves 86 acres in the Amraoti District were transferred from "ramnas" to "grazing lands" under sanction of the Government (Berar Secretary's No. 845-R of the 6th April 1887), and 57 acres were given over to the Department of Public Works for quarrying during the construction of the Purna bridge. This was ordered in Berar Secretary's Nos. 1050-R. of 27th April 1887, 1278-R. of 17th May 1887, 1330-R. of 23rd May 1887, and 1438-R. of 3rd June 1887. The alterations in the area of District Forests in Ellichpur are due to rectification of errors discovered.

13. Under District Unreserved Forests the changes are due to land being taken up for, and thrown out of, cultivation. But there is one point to which attention should be drawn. In Wun, of the 5,079 acres given up to cultivation, 1,675 are from grazing lands "B."

14. Now, when the re-classification of the Wun District Forests was made by Mr. Bagshawe and sanctioned by the Resident, it was followed by a set of rules approved by the Resident for their management and printed in the Annual Forest Report for 1883-84, and it is distinctly stated in Rule XVII that the open forests are available for cultivation, from which it may be inferred that no other class of forest besides open forests is available for cultivation. Moreover in all the correspondence which led up to this re-classification, the paramount idea is to limit the area which shall in future be liable to fluctuation on account of cultivation, and this object was obtained by fixing the areas of woods, ramnas, and grazing lands A and B, and allowing extension of cultivation only in the balance—the open forests. Consequently it appears that the rules have been disregarded in the Wun District. They have been in this respect properly obeyed in Amraoti and Ellichpur, the only two other Districts in which they are applicable.

15. In the remaining three Districts of Akola, Buldana, and Basim, the re-classification schemes were not accepted. Consequently I cannot say whether

the large areas given out for cultivation, *viz.*, 8,042 acres in Akola, 14,599 in Basim, and 8075 in Buldana, were from the lands selected under Mr. Bagshawe's scheme to remain open forest, or from the gross area of the District unreserved forests including what in East Berar are called grazing lands or grazing tracts.

Boundaries.

16. The usual petty repairs of boundary-marks of Demarcated State and of District Reserves were carried out.

In Amraoti only was there heavy demarcation work, some 14,000 boundary-marks of the grazing tracts having been repaired at a cost of Rs. 1,873.

CHAPTER II.—Surveys, Working Plans, and Annual Plans of Operations.

17. The Officiating Superintendent, Forest Survey Branch, has furnished the following information on the progress of the survey of the Melghat Taluk :—

"The note furnished last year gave details of the areas surveyed to the 30th April 1887. The Survey Party remained in the field till the 25th June, and at the close of the working season the total area surveyed amounted to 453 square miles, comprising 245 square miles on the 4″ scale and 208 square miles on the 2″ scale.

"Work was started again at the end of November 1887 by two detachments, one of which worked in the Dulghat and Mohkot Parganas in the western portion of the Melghat, and the other in the north-west, chiefly in the Amner Pargana. In the middle of January a third detachment was sent to work in the vicinity of the Narnala Fort and along the southern boundary of the Melghat, and towards the end of the same month a fourth detachment was sent to complete the survey of the Bairagarh Reserve. This was finished early in May.

"An effort was to be made to complete the survey of the Melghat Taluk, but the area remaining to be surveyed was a large one, and it was soon evident that, unless the two detachments in the south and west were materially strengthened, this would be impossible. Accordingly the detachment in the Bairagarh Reserve, which formed the *nucleus* of a larger one destined for work in Bashahr, was detained and sent to the Western Melghat, and another small one of three surveyors was ordered down from Jabalpur.

"The party is still in the field, and it is not possible therefore to give accurate areas to date; but the outturn to the end of May was as follows :—

"Area plane-tabled on 2″ scale	...	...	412·30 square miles.
Do. do. 4″ do.	...	...	138·90 do.
		Total ...	551·20 do.

and the approximate area surveyed up to date 650 square miles, the largest outturn yet accomplished since the beginning of the Melghat survey. This result is partly due to the late setting in of the rains, to the diminished rainfall, and to the employment this year of a stronger party than usual; but also in a great measure to the exertions of the members of the party who have cheerfully responded to the unusual demand made on their powers of endurance at this trying time of the year. They are still at work, and it is expected that perhaps with the exception of a small area of about 8 square miles on the southern boundary, the survey of the entire taluk will be completed by about the 3rd of July.

"The village demarcation is, of course, completed, but a question has arisen in connection with the boundary line between the Melghat and the Nimar District of the Central Provinces. Proposals have been submitted for its settlement, but up to date no decision has been arrived at. Temporary marks (in addition to the existing ones) have, however, been set up on what is considered to be the correct boundary line, and it is anticipated that a re-survey of the line will not be necessary.

"The computations of the triangulation and traversing completed last year have been got out of hand.

"The following maps have been published :—

"On the 4″ scale, No. 26 N.W. and 20 S.E. comprising the villages of Borala Gondwagholi and Nandadari, and on the 2″ scale Nos. 20 S.E., 20 S.W., 27 N.W. and 27 S.W.

"The following sheets have been drawn and are ready for examination before being sent to the press, *viz.* :—

"Nos, 19 $\frac{N.E.}{1}$, 19 $\frac{N.E.}{2}$, 19 $\frac{N.W.}{1}$, 19 $\frac{N.W.}{2}$, 26 $\frac{N.W.}{3}$, 26 $\frac{S.W.}{1}$, 26 $\frac{S.W.}{3}$, 26 $\frac{S.W.}{4}$, all on the 4" scale and Nos. 20 N.E. and 20-A. N.E. on the 2" scale.

"And the drawing of the following sheets is well advanced :—

"Nos. 19 $\frac{N.E.}{4}$, 19 $\frac{S.W.}{4}$, 20 $\frac{N.W.}{1}$, and 20 $\frac{N.W.}{2}$ on the 4" scale; and No. 20 N. W on the 2" scale."

18. The Raipur-Makla working plan prescribed the annual felling of 1,000 first-class teak trees in the two blocks known by those names. And the Inspector-General of Forests, in his remarks on the plan, gave his opinion that, assuming that the forest was homogeneous, and if the girths and ages of first and second class trees as given in the plan were taken, this number might be raised to 1,280 trees per annum.

19. Colonel vanSomeren, just before leaving on furlough, left a note saying that some big trees had been felled with the result that several have been found to be far more faulty and unsound than was ever anticipated.

20. I fear that we dare not accept Colonel vanSomeren's estimate of the outturn of first-class trees.

21. The Divisional Forest Officer reports that over the area selected for the operations of the past year, *viz.*, 3½ square miles, being approximately one-twenty-fifth of the total area of the blocks, only 580 first-class trees could be found.

22. It is too early yet to say whether the 1,000 trees per 3½ square miles is over-estimated or not. Next year's area may yield more. But I certainly do not think that the forest can be called homogeneous, and there is no doubt that the outturn per tree is far below what was expected both in volume and in quality, and that as far as we can judge from the first year's work the calculations in paragraphs 35 and 39 of the plan will prove too high for the average first-class tree found.

23. Mr. Prevost writes: "Most of the trees felled were far below the average height of 56′ 2″ fixed by the plan, and as a rule they possessed no real timber and were hardly worth felling; the average trees did not contain more than 25 to 30 cubic feet of timber, or little more than half Colonel vanSomeren's estimate. It is a pity to see what a large proportion, quite 50 to 60 and 80 per cent. of the wood, is discarded by the purchasers as non-utilisable. Some of the trees over 7 feet in diameter were lying discarded on the ground, the purchaser having contented himself with taking one or two small 'goles' off the tree and leaving the hollow, useless trunk." "As a rule the purchasers only go in for the 'marketable branches' (see para. 35 of plan). This is most important and we note that all branched trees at once realise a fairly good price."

24. The area taken in hand this year was close to Sembadoh, and this may account for so few trees being found. It is possible that more will be found as we get further away. The outturn being so poor, and the trees so scattered, about one to every four acres, it is natural that the price realised should have been disappointing.

CHAPTER III.—Protection and Improvement.

(1)—*Establishments.*

25. The establishment was increased by two foresters on Rs. 15 and three forest guards on Rs. 8 for Basim, and one forest guard on Rs. 8 for the Mehdari Reserve.

26. The arrangements for the appointment of Mr. Ahmad Ali, Sub-Assistant Conservator of Forests, as Tahsildar of the Melghat and of the appointment of an Extra Ranger on Rs. 60 in his place were completed.

27. Mr. G. H. Wittinbaker having successfully passed his examinations and received his Ranger's certificate at Dehra, was nominated to the vacant Sub-Assistant Conservatorship reserved for him and joined on the 11th April 1888.

28. There are six forest charges in Berar—one for each of the Districts, and for these we have present only two Deputy and Assistant Conservators and three Sub-Assistants. Consequently we have still to put two Districts under one officer, and it is impossible to give any leave.

29. Our sanctioned strength on the combined Central-Provinces-Berar-Coorg List is three Deputy and Assistant Conservators and four Sub-Assistants, so that we are short of one Assistant Conservator; and one of our Sub-Assistants, Mr. Ahmad Ali, is not available for the charge of a Division, and is not employed on forest work. Until this state of things is remedied, there can be no leave given, and should Mr. Prevost or Mr. Taylor fall sick, I should have two Divisions without an officer.

30. Forester Pandurang Narayan rejoined from Dehra, having obtained his Ranger's certificate, and was, on arrival, appointed to officiate as Ranger in a vacancy.

31. Recruiting for service in the Melghat has been as difficult as usual. Three foresters on Rs. 15, new men and natives of Berar or of the Deccan, successively ran away at their first sight of the Melghat hills. Our executive establishment consists almost entirely of up-country men with a sprinkling of Gonds. Natives of the country only care for the sedentary work of a naka karkun.

32. The District forests are everywhere supervised by one Forester per Taluk. Latterly a habit has sprung up of the Taluk Forester spending the end and beginning of every month, sometimes as long as 15 and 20 days, at head-quarters, assisting in the compilation of the Tahsili forest accounts, for which the Tahsildar has no establishment.

33. These Taluk Foresters were not entertained for this purpose, and their proper work is executive and not sedentary. They have all the grazing to check and the cuttings in babul bans, and should not be employed in office work. At the same time the Tahsildar should have a forest karkun for the compilation of accounts, and I propose to come up for sanction to this.

34. The office establishment, too, requires, strengthening. In some offices there is only one clerk for all the Vernacular as well as the English work, and this is not enough when the value of the revenue alone passing through the books of a Division amounts to from Rs. 30,000 to Rs. 70,000 per annum. Men fall sick and want leave, and the whole office work is demoralised. The work, too, has very much increased since the days when everything was farmed out and the revenue entries were few and simple. Proposals have gone up for an increase of the office staff since the close of the year.

(2)—*Legislation and Rules.*

35. The draft rules mentioned last year as having been submitted for sanction have not yet received the approval of Government.

(3)—*Breaches of the Forest Law.*

36. The following table is a summary of Form 50:—

Divisions.	Prosecutions.				Convictions.	Acquittals.	Corresponding at close of 1887-88.	Percentage of convictions to prosecutions.
	Pending from 1886-87.	New of 1887-88.	Total for trial, 1887-88.	Concluded in 1887-88.				
Ellichpur ...	...	108	108	108	89	19	...	82·40
Amraoti ...	3	79	82	82	70	12	...	85·36
Akola ...	...	39	39	39	27	12	...	69·23
Buldana ...	2	28	30	28	16	12	2	57·14
Basim ...	...	104	104	101	91	10	3	90·09
Wun ...	...	29	29	29	25	4	...	86·20
Total ...	5	387	392	387	318	69	5	82·17

37. The proportion of convictions to prosecutions has risen nearly to the figure of 1885-86, and it has risen in four out of the six districts. It has fallen in Akola and Buldana, in the latter seriously.

38. The total number of new cases has fallen from 406 to 387.

39. District Forest Officers universally complain of the difficulty of proving grazing cases and of the non-deterrent punishments inflicted by Magistrates.

(4)—*Forest Fires.*

40. The results of the year's fire protection are shown below :—

Divisions.	Years.	Protected successfully.	Failures.	Cost.
Ellichpur	1887	386,405	688	2,448
	1888	386,283	860	2,415
Amraoti	1887	11,591	1,480	186
	1888	11,838	1,233	348
Akola	1887	31,411	100	42
	1888	31,511	...	54
Buldana	1887	59,582	82	251
	1888	54,669	4,995	250
Basim	1887	79,287	1,000	926
	1888	80,157	130	901
Wun	1887	85,326	11,419	1,980
	1888	75,045	21,700	1,607
Total ...	1887	653,602	14,769	5,833
	1888	639,453	28,915	5,575

41. The area attempted remains the same as last year. The failures are 14,149 acres more and the cost Rs. 258 less, and the expenditure per successfully protected acre 1,67 pie, or Rs. 5-9-3 per square mile.

42. In the Ellichpur District the Raipur block again escaped all fires for the 16th year in succession.

43. Fire protection was very successful everywhere except in Wun and in Buldana.

44. In Buldana 4,980 acres were burned in the Matergaon Reserve; the fire is supposed to have been caused by cartmen cutting grass, but the result of the police enquiry instituted has not yet been communicated.

45. In Wun there were in all 14 fires—3 in the Tiwsala Reserve burning 1,205 acres, 2 of which are thought to have been caused by Mohwa-flower gatherers, 5 in the Tipeshwar block of the Kelapur Reserve, of which the Divisional Forest Officer thinks 4 were the result of deliberate incendiarism, total area burnt 17,890 acres; 3 in the Kharoni block of the Kelapur Reserve, of which 2 are said to have been purposely started, area burnt 1,270 acres; 1 in the Kharad Reserve, burning 5 acres; and 2 in the Gondwakri Reserve, 1 deliberately started burning 1,330 acres.

46. This is a very bad record. The Divisional Forest Officer complains, and apparently with some reason, of incendiarism, as so many fires occurred inside the reserves. The Tahsildar, in inquiring into the Kelapur fires, gave his opinion that they were intentional, as they started in places where no one would go on legitimate business of any kind.

47. The district is the most "jungly" of all Berar outside the Melghat, and contains more uncultivated land and private properties (held on lease) than any other, so that there is no doubt more danger from fire from the outside. Still, until the District Officers and Magistrates in Wun take a stronger personal interest in the protection of their forests from fire, the fire record in this district is not likely to improve.

48. The attempt to give the area of forest which naturally escapes fire without special attempts at protection has been given up as useless

(5)—*Grazing.*

49. The farming of the grazing lands in Buldana, Basim, and Akola was replaced during the year by the system of grazing on passes with the most satisfactory results both financially and in the contentment of the people.

50. In Appendix A the increase in the number of cattle grazed in these three Districts is due to the numbers being now known and registered, whereas under the farming system they could not be reported.

51. In other Districts the increase is due to improved supervision and registration. Improvement in this respect may annually be expected until a trustworthy enumeration of the cattle of each village has been arrived at, when the checking of the increase and decrease of the cattle will be all that is required.

52. An endeavour will be made in future years to estimate the tonnage of grass removed from the forests by grazing. We should know not only to how many cattle we can give grazing, but how much grass in some known measure, such as tons, is yielded by our grazing lands for the benefit of the cattle of the province.

53. The agricultural stock of Berar in 1886-87 is given as—

Cows and Bullocks.	Buffaloes.	Sheep and Goats.
1,667,730	298,694	443,092

while the numbers who pay for grazing according to Appendix A are—

Cows and Bullocks.	Buffaloes.	Sheep and Goats.
916,050	148,617	388,698

or about half. Many cattle are exempted it is true, and many are stall-fed, but it is probable that large numbers graze and evade payment. It is this flaw which will become less and less every year as cattle enumeration progresses.

54. The numbers registered as paying grazing dues are thus shown :—

Division.	Camels.	Buffaloes	Cows and bullocks.	Sheep and goats.	Total for 1887-88.	Total for 1886-87.
Ellichpur	54	18,150	109,838	57,779	185,821	165,948
Amraoti ...		29,176	124,256	86,044	239,476	201,970
Akola	...	9,519	76,330	22,105	107,954	14,351
Buldana	...	21,383	141,651	89,253	252,287	12,276
Basim	.	20,432	147,770	41,761	209,963	8,933
Wun	...	49,957	316,205	91,756	457,918	426,813
Total ...	54	148,617	916,050	388,698	1,453,419	830,291

55. The Executive Engineer, Melghat Roads Division, has furnished the following information regarding the progress made in works for storing water for cattle :—

Names of tanks			Remarks.
Mondra	...	...	Completed.
Patoola	...	...	Begun, but plan changed.
Hoard, Wagoli	...	...	Not yet commenced.

(6)—*Natural Reproduction.*

56. The reports about natural reproduction are not so glowing as in previous years, and the impression is fast gaining ground that what used to be reported as plentiful natural reproduction was only the rains growth of seedlings and coppice shoots which is always apparent up to a certain time of the year, but which *invariably* dies down in the hot weather, unless certain conditions of protection and moisture be present.

57. Thus in Wun the report for the Pathrot forest says that natural reproduction was abundant during June and July, but died down afterwards from heat and passage of cattle; for the Lon-Behel Reserve, that it was found only in valleys, and there very little; for the Gondwakri Reserve, that it was very slow in the portions grazed over and only found in moist and shady valleys, in Kharad, that it was totally absent in the hills, some seedlings being found in low valleys and basins; in Kelapur, that there was no improvement; in Tiwsala, that seedlings were observed only where there was moisture.

58. So also Akola reports that the reproduction of the rains always dies off. Ellichpur notices that village sites deserted, some since 1864, show "marvellously little advance" Basim and Buldana say the same thing. There is no natural reproduction which persists unless the place is fire-protected and grazing is not allowed.

(7)—*Artificial Reproduction.*

59. Artificial reproduction was confined to the operations in the Pathrot Reserve in continuation of those described in paragraph 51 of last year's annual report.

60. In 1886-87 Rs. 883-5-0 had been spent, and in the present year Rs. 1,277-13-10, thus:—

	Rs.	a.	p.
On manuring, bedding, sowing, &c., and maintenance of the nursery	151	0	0
Digging 4,935 pits	637	11	4
Carriage of plants	36	3	0
Filling up of pits	160	9	6
Planting	34	5	6
Establishment	175	8	0
Weeding	15	7	0
Miscellaneous	67	1	6
Total ...	1,277	13	10

61. The plants put out were half bamboo and half mohwa, mango, and hirra, and the operations extended over 50 acres, which are the same 50 acres brought on to Form 52 last year, and of which only three-fourths are yet really planted up, the remainder being partly pitted and partly blank, so that these first 50 acres have already cost Rs. 43 each.

62. It is hardly, I think, the province of the Forest Department to cultivate trees which are mainly valuable for their fruits or for any accessory product, such as leaves, bark, gum, &c. Carried to excess, it might mean interfering with what was a private industry. I would rather see our forest reserves clothed with the really indigenous timber trees of the country, the timber of which, and not the fruits, was the main object of the cultivation.

(8)—*Cultural Operations.*

63. Broadcast sowing was continued in all the districts, but with indifferent success. The general opinion seems to be more and more that very little of what germinates during the rains survives the hot weather.

64. My own opinion is distinctly adverse to the scattering of seed without some previous preparation of the ground. Nature has done it, although perhaps to a smaller extent, and is always doing it, and the result is next to nothing. Nothing will ever be really effected until the ground has really been properly covered against the sun for a long period, amounting perhaps to 20 years in places.

Cultural operations should, I think, extend over areas the extent of which is appreciable.

(9)—*Communications.*

65. The expenditure of the year, Rs. 19,184, has been the highest on record, and Rs. 18,817 of it spent in the Melghat, where 23 miles of road were added to our mileage of forest roads, which now amounts to 132 miles.

CHAPTER IV.—Yield and Working.

Departmental Operations.

66. In the Bairagarh Reserve are the only departmental workings undertaken.

Four thousand and sixty-five trees of various kinds were felled on the same principle as last year. The larger number felled is due to a brisker trade. The fellings are for improvement and consist in the removal of big mature trees, where the condition of the undergrowth permits of their removal.

The extent of this work will always depend on the demand, as there is no cutting in advance of the sales.

67. The fellings under the Raipur-Makla working plan have been described in paragraphs 18 to 24; only 580 out of the 1,000 trees prescribed by the plan were found in the area worked over.

68. The revenue and expenditure of these departmental works have been, I think, always erroneously shown under R. II and A. II, instead of under R. I and A. I, and the practice will be discontinued after this year.

Removal of produce by purchasers.

69. Form 54 shows the amount of timber and fuel taken out of the forests. As there is no departmental carriage of material, yield is equal to outturn, and the whole outturn is removed by purchasers.

70. Except in Ellichpur, the produce from the District reserves is not kept separately from that from the unreserved forests. This is due to the accounts for these two classes of forest being compiled in Tahsildars' offices without any professional supervision. This state of things ought to be remedied, and proposals will be submitted for giving each Tahsildar a karkun specially for forest work.

71. The classification of yield into improvement fellings, clearances, and thinnings is totally unsuited to Berar.

72. In the Bairagarh and Pathrot Reserves the operations may be called improvement fellings; in the other reserves only removal of dry material is permitted, but the immense mass of forest produce is taken from the unreserved forests through the patels of villages on passes.

73. In Amraoti the produce of the greater part of the forest lands is farmed. In future, if the system be continued, care will be taken to enter conditions in the agreement with the contractors as to the record to be kept of the produce and for the inspection of the contractors' books by forest officials.

74. The summary of the produce removed from the forests is given below:—

Produce.		1886-87.	1887-88.
Trees (Melghat)	No.	3,472	4,065
Teak goles	No.	227	2,681
Teak tiwas and shishum ...	C. ft.	171,028	222,005
Other kinds	C. ft.	177,904	241,269
Firewood and charcoal ...	C. ft.	386,775	413,846
Bamboos	No.	2,122,741	2,333,370
Grass	Tons	14,732	26,818
Roots and fruits	"	989	859
Lac	"	6	6
Teak leaves	"	274	333
Gum	"	1	4
Miscellaneous	"	20	96

showing an increase under all the most important classes of produce.

75. As the Melghat produces far the greatest share of the more important products, the following table compares for the Ellichpur Division the yield of the present with the last year:—

Produce.		Bairagarh Reserve.		Gugamal Reserve.		District Reserved Forests.		Melghat Unreserved Forests.		Total.	
		1886-87.	1887-88.	1886-87.	1887-88.	1886-87.	1887-88.	1886-87.	1887-88.	1886-87.	1887-88.
Teak ...	C. ft.	21,145	40,352	121	1,055	...	...	149,762	180,598	171,028	222,005
Other woods ...	"	8,071	8,499	17	...	...	...	157,614	164,842	165,702	172,841
Firewood ...	"	...	...	...	...	728	2,129	130,515	112,629	131,243	116,758
Charcoal ...	"	...	...	...	...	...	...	124,339	136,790	124,339	136,790
Bamboos ...	No.	628,705	845,584	549,522	527,810	...	...	853,000	976,991	2,024,227	2,349,985
Grass	Tons.	...	...	2	...	...	...	3,960	5,243	3,962	5,243
Lac	"	½	1½	...	...	...	...	6	5	6½	5 1.5
Teak leaves ...	"	...	...	...	...	...	...	274	333	274	333
Roots and fruits ...	"	115	107	1	½	...	...	873	752	989	859½
Gum	"	...	...	...	...	...	...	1	4	1	4
Miscellaneous ...	"	...	...	...	½	...	...	21	17	21	17½

CHAPTER V.—Financial Results.

76. The gross revenue realized is Rs. 4,06,247, the gross expenditure Rs. 1,83,160 and the surplus Rs. 2,23,087, the highest on record.

77. The revenue was realised from the following sources :—

	1887-88.	1886-87.
	Rs.	Rs.
Timber	1,00,070	76,897
Firewood and charcoal ...	43,591	23,738
Bamboos	34,589	31,359
Grazing and fodder grass ...	2,08,667	1,72,249
Other minor produce ...	15,582	18,785
Confiscated produce and waif wood	2,474	2,134
All other sources ...	1,274	1,285
Total ...	4,06,247	3,26,447

78. There is an increase under all sources except minor produce and miscellaneous.

The increase under timber has been principally in the Ellichpur Division, Rs. 18,443 ; Buldana, Rs. 4,408 ; and Basim, Rs. 1,815, while Wun shows a decrease of Rs. 1,704.

In fuel and charcoal the chief increase has been in Amraoti, Rs. 8,713; Akola, Rs. 11,126; and Buldana, Rs. 1,188, while Basim shows a decrease of Rs. 1,547.

Under bamboos the increase is in Ellichpur.

Grazing shows an increase everywhere.

79. The noticeable points are the increase in timber in the Ellichpur Division due to greater briskness in the trade, a favourable year from the point of view of the seasons, and in some measure too to the consolidation of the road system in the Melghat ; of fuel in the Amraoti and Akola Divisions, due to demand for babul for consumption in mills ; and of grazing everywhere, due in Buldana, Basim, and Akola to the introduction of the pass and abolition of the farming system, and in the other Divisions to improved supervision.

80. Expenditure A was Rs 16,479 in excess of last year, and Expenditure B, Rs. 4,828 less, so that, while the total expenditure was only Rs. 11,650 the revenue was Rs. 79,800, more than last year.

81. Under working expenses the chief increases have been under A-II, due to paying arrear emoluments to patels and patwaris for assisting in collecting revenue and to payment on an increased revenue for the year ; under A. VII. *a*, to heavy road expenditure in the Melghat ; under A VII *b*, to building in Ellichpur and Buldana ; and under A. VIII. *a*, to demarcation work in Amraoti.

82. There is nothing noticeable under B, Expenditure, except the decrease under B. I. *b* owing to loss of officers (Messrs Ballantine and Rind). The receipts and charges under classes of forest, under Divisions, and under budget heads are shown in the three following tables :—

83. *The financial results by classes of forest.*

Class of Forest.	Revenue.		Expenditure.		Surplus.		Deficit.	
	1886-87.	1887-88.	1886-87.	1887-88.	1886-87.	1887-88.	1886-87.	1887-88.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Demarcated State Forests ...	57,223	66,140	64,694	76,320	...	...	7,471	10,180
District Reserved Forests ...	1,68,962	227,151	51,182	54,259	1,17,780	1,72,892	...	...
District Unreserved Forests ...	1,00,262	1,12,956	55,634	52,581	44,628	60,375	...	...
Total ...	3,26,447	4,06,247	1,71,510	1,83,160	1,62,408	2,33,267	7,471	10,180
			Deduct deficit ...		7,471	10,180		
			Net surplus ...		1,54,937	2,23,087		

84. *The financial results by divisions.*

		Revenue.	Expenditure.	Surplus.	Deficit.
		Rs.	Rs.	Rs.	Rs.
Direction Office		127	24,238	...	24,111
Ellichpur Division.	Office	240	15,918	...	15,678
	Demarcated State Forests	34,619	31,549	3,070	...
	District Reserved Forests	5,758	1,315	4,443	...
	Unreserved Forests...	1,12,808	27,411	85,397	...
		1,53,425	76,193	92,910	15,678
Amraoti Division.	Office	10	7,692	...	7,682
	Demarcated State Forests	5,871	1,595	4,276	...
	District Reserved Forests	62,810	6,334	56,476	...
		68,691	15,621	60,752	7,682
Akola Division ...	Office	...	7,506	...	7,506
	Demarcated State Forests	5,782	2,472	3,310	...
	District Reserved Forests	30,433	5,915	24,518	...
		36,215	15,893	27,828	7,506
Buldana Division.	Office	19	7,049	...	7,030
	Demarcated State Forests	7,584	2,641	4,943	...
	District Reserved Forests	32,951	4,231	28,720	...
		40,554	13,921	33,663	7,030
Basim Division ...	Office	4	6,361	...	6,357
	Demarcated State Forests	1,885	4,353	...	2,468
	District Reserved Forests	32,653	3,023	29,630	...
		34,542	13,737	29,630	8,825
Wun Division ...	Office	43	6,748	...	6,705
	Demarcated State Forests	10,252	8,540	1,712	...
	District Reserved Forests	62,398	8,269	54,129	...
		72,693	23,557	55,841	6,705
Total ...		4,06,247	1,83,160	300,624	77,537
		Deduct deficit ...		77,537	
		Net surplus ...		2,23,087	

85. *The financial results by budget heads.*

Heads.	Receipts.		Charges.	
		Rs.		Rs.
I. Departmental timber operations.	I ...	...	I	...
II. Other revenue ...	II, III, and V.	4,06247	II, V, IX, 75%, VI and B.	1,20,817
III. Formation, protection, and improvement of forests.	...	...	VII, VIII, 25%, VI and B.	62,343
	Total ...	4,06,247	Total ...	1,83,160

CHAPTER VI.—General Remarks.

86. Only four months' experience of the officers and staff does not permit me to say much concerning them beyond that among the officers at least I have every reason to be satisfied with their zeal and energy, and, in all questions concerning the Melghat, I have had the cordial assistance, and benefited by the great experience of Colonel Mackenzie, Deputy Commissioner of Ellichpur.

87. My own office has worked uncommonly well, and is kept in excellent order by my Head Clerk, Ganesh Narayan.

88. In this Report I have confined myself to the work and to the progress of the year, but there are certain aspects of the forest question in Berar to which I think some publicity should be given. These I have added in the form of an appendix so that it may, if necessary, be considered separately.

R. WHITTALL,

Offg. Conservator of Forests,

Hyderabad Assigned Districts.

APPENDIX I.

CHAPTER I.— Area and Boundaries.

1. On comparing the area of the different classes of forest land in the last Forest Report with that in the last Commissioner's Report, I found that they differed considerably both in gross and in detail, and yet each is reported to Government as authentic and by the same authority, that is, the area and classification as shown in Form 49 of the Forest Report are received from Deputy Commissioners, and I presume so are those of the Commissioner's Administration Report.

The different classes of forest land differently reported in previous years in the Forest Report and in the Revenue Administration Report.

2. The discrepancies for the last reports, viz., for the year ending 31st March 1887, are exhibited below:—

The figures in the two Reports for the year 1886-87 exhibited side by side for the whole circle.

District.	As per Revenue Administration Report for 1886-87.							As per Annual Forest Report for 1886-87.						
	Area of demarcated State forests.	Area of Babul bans.	Area of ramnas.	Area of other district reserved forests.	Area of free grazing.	Area of unculturable lands.	Total.	Area of demarcated State forests.	Area of Babul bans.	Area of ramnas.	Area of grazing lands.	Area of other district reserved forests.	Area of district unreserved forests.	Total
Ellichpur ...	148,500	1,358	63	18,995	15,667	545,155	729,039	389,468	...	...	...	35,982	592,497	1,017,972
Amraoti ...	12,060	7,366	13,899	116,822	53,880	379	202,912	50,972	10,948	...	...	139,338	17,847	219,105
Akola ...	20,625	2,614	4,946	40,728	47,145	33,567	149,625	20,885	...	...	...	49,199	84,781	154,865
Buldana ...	67,925	999	1,808	2,725	77,426	95,118	245,401	67,629	999	...	...	4,133	117,507	190,268
Basim ...	82,161	738	1,027	15,084	180,996	297,572	577,578	82,948	2,717	15,528	588	...	420,712	522,494
Wun ...	96,836	2,095	16,409	66	348,425	202,050	852,491	96,745	2,495	...	...	16,476	430,240	546,156
Total ...	428,013	15,670	37,152	194,421	717,549	1,304,841	2,757,646	708,675	17,359	15,528	588	245,128	1,663,580	2,650,861

The figures in the two Reports for the last seven years, exhibited side by side for one district only, as an example of the degree of difference which obtains.

3. To show to what extent these areas have differed in the two Reports in previous years, I give them below side by side for one district only for seven years :—

Buldana District.

Year.	As per Revenue Administration Report.							As per Annual Forest Report.				
	Area of demarcated State forests.	Area of Babul bans.	Area of ramnas.	Area of other district reserved forests.	Area of free grazing	Area of culturable lands.	Total.	Area of demarcated State forests.	Area of Babul bans.	Area of other district reserved forests.	Area of district unreserved forests.	Total.
1880-81	54,139	987	1,253	12,826	78,566	96,423	244,194	53,957	1,737	14,742	205,213	275,649
1881-82	54,177	990	1,309	12,826	78,439	96,423	244,164	53,957	1,728	14,742	204,072	274,499
1882-83	67,870	999	1,308	2,725	76,514	95,612	245,028	67,674	1,737	3,305	188,903	261,709
1883-84	67,870	999	1,308	2,725	77,475	95,125	245,502	67,674	1,737	3,305	173,793	246,509
1884-85	67,870	999	1,308	2,725	77,410	95,069	245,401	67,674	1,737	3,305	166,122	238,038
1885-86	67,870	999	1,308	2,725	77,410	95,060	245,401	67,674	1,737	3,305	166,122	238,038
1886-87	67,925	999	1,308	2,725	77,426	95,118	245,401	67,629	999	4,133	117,507	190,268

4. I have pointed out these differences to Deputy Commissioners, and have met with much support in attempting to reconcile them. They will of course be reconciled in time as they *must* be the same.

5. I have already pointed out that the gross area of the Amraoti Hills Reserve has been wrongly shown among demarcated State reserves in previous years. Only one block, viz., that called the Chirodi Block, has fulfilled all the conditions required for demarcated State reserves under the Rules of 1871. But as the whole area has been sent up for inclusion in the new State reserves under the new law, I preferred to leave the reserve as such in Form 49 for 1887-88.

Demarcated State Reserves. The Amraoti Hills reserve (so called) of 50,973 acres wrongly entered among demarcated State reserves.

6. The Chikalda Reserve is still shown as a demarcated State reserve, and it is properly constituted as such. But it has no expenditure on it, nor revenue from it according to the Ellichpur Form 58. It is annually burnt, or the greater part of it, under orders based on recommendations from the Sanitary Commissioner, is, and it seems absurd to retain it on our list.

Not desirable to retain the Chikalda Reserve on the list of demarcated State reserves.

Distribution of the demarcated State forests of the province from the point of view of serving the province with produce.

7. It is seen then that we have 1,107 square miles of demarcated State forest, which form, I suppose, the timber reserves of the future.

8. The distribution of this area is 609 square miles on the hills of the Ellichpur District to the north of Berar.

9. 21 square miles (the Amdari Reserve) touching the extreme western border of the province.

10. 82 square miles (the Kinwat Reserve) in a loop of the Penganga river on the extreme south of the province.

11. The Mehdari Reserve of 6 square miles gazetted just after the close of the year touches the extreme eastern boundary of the province.

12. The Wun Forests of 151 square miles are well in the south-east corner of Berar.

13. Of the Akola Forests, three square miles are of babul, and the Amraoti Hills Reserve, of 80 square miles, consists mostly of grass.

Absence of reserves in the centre of Berar.

14. So that, in the really natural position of timber reserves in south Berar, *vis.*, the broken ground between the Balaghat and Payenghat, we have only the Gerumatergaon Reserve of 72 square miles in Buldana, 43 square miles of reserve in Basim, and 37 in Akola.

The distribution bad, seeing that the reserves are mostly on the confines of the province.

15. To exploit the best forests, *vis.*, those in the Melghat, we have to incur great expense in roads and establishments, and they only serve the province down to about the line of railway. And with Amdari, Kinwat, and Mehdari on the extreme confines of the province, the distribution is not good; and every effort should be made to increase the area of our timber forests more in the centre of the line betwen the Amdari Reserve in Buldana and the reserves of the Wun District.

The district reserves.

16. The district reserves consist of the Babul bans scattered throughout Berar, certain ramnas, or grass "birs," mostly in the vicinity of large towns and villages, and some tracts which it was once hoped would be converted into demarcated State reserves. The attempt failed on account of the objection to exclude grazing in them, a *sine quâ non* in the matter of timber forests in South Berar.

The unreserved or open forests.

17. The unreserved forests form the balance. They mean *all* the remaining area not under cultivation or assessment. Their area always was and still is, fluctuating because freshland is always being given up for cultivation, and some land always being thrown up.

The area liable to the extension of cultivation far more extensive in West than in East Berar.

18. In Mr. Bagshawe's time an attempt was made to limit a portion only of the area of District unreserved forests to the liability of being taken up for cultivation, and this attempt was successful and was completed for the three Districts of East Berar, Ellichpur, Amraoti, and Wun. But it failed for West Berar. So that, as far as the extension of cultivation goes, the area available in Buldana, Basim, and Akola is limited by the total area of the unreserved forests which are in—

Buldana	...	...	...	111,337 acres.
Basim ...	...	...	...	410,152 do.
Akola ...	...	...	...	90,236 do.

While in Amraoti, Ellichpur, and Wun it is still further limited by the exclusion of woods, ramnas, grazing lands A, and grazing lands B, from liability to fluctuation on account of cultivation.

Division of the forest question into "grazing" and "timber and fuel."

19. Our main duty in Berar, it seems to me, is to safeguard (1) the grazing areas, (2) the timber areas. Special areas for fuel outside the timber areas are not, in my opinion, needed.

The area available for grazing has so diminished that the "grazing" question, already serious, will become more so if the extension of cultivation continues.

20. Now the areas available for grazing are everything but the timber areas, or demarcated State forests, and babul bans. And the following table shows how the grazing areas have diminished during the last seven years.

21. The figures are taken from the Annual Forest Reports :—

District Unreserved Forests.

Year.	Ellichpur.	Amraoti.	Akola.	Buldana.	Basim.	Wun.	Total.
1880-81 ...	624,595	70,128	100,808	205,213	294,011	541,771	1,836,526
1881-82 ...	624,600	70,128	82,310	204,072	460,351	497,851	1,939,312
1882-83 ...	624,405	70,128	81,898	188,903	453,757	472,302	1,891,393
1883-84 ...	592,696	17,523	81,469	173,793	454,627	446,178	1,766,286
1884-85 ...	592,464	17,523	84,035	166,122	448,279	496,646	1,805,069
1885-86 ...	592,540	17,523	89,577	166,122	448,279	475,800	1,789,841
1886-87 .	592,497	17,847	84,781	117,507	420,718	430,240	1,663,590
1887-88 ...	592,699	17,900	90,236	111,337	410,152	425,274	1,647,598

22. Considering, then, how important grazing is in Berar, it seems that far too much is being given up for cultivation at the expense of the grazing.

23. The distribution of the grazing lands, of course, we cannot help; moreover it is on the whole good. But the area should at once be fixed, and where possible be increased, by the absorption into grazing land of suitable land thrown out of cultivation.

The area available for "grazing" being dependent on the area liable to diminution on account of cultivation, the areas available for timber and fuel considered.

24. Now from the point of view of the value of the produce which these different classes of forests have yielded, the following table shows the revenue given from the Melghat reserves, the Melghat open forests, the remaining reserves of Berar, and the District forests, and the figures are the totals of the last seven years from 1881-82 to 1887-88 :—

Budget Heads.	Melghat open.	Melghat reserves.	Remaining reserves.	District Forests.
	Rs.	Rs.	Rs.	Rs.
R. I-*a*.	...	8,678	...	...
c.	...	68	...	...
Total R. I. ...	...	8,746	...	...
R. II.-*a*....	4,50,069	35,631	5,723	52,472
b.	50,976	2	9,377	88,063
c.	97,924	1,02,594	3,551	3,568
d.	82,148	2	72,047	8,80,356
e.	27,350	3,044	6,174	92,741
Total R. II. ...	7,08,467	1,41,273	96,872	11,17,200
R. III.	1,260	233	21	17,701
R. V.	784	587	623	6,762
Total Revenue ...	7,10,511	1,50,839	97,516	11,41,663

25. I have shown the Melghat revenue separately both for reserves and open forests, as it serves no useful purpose to amalgamate it with the figures for the remainder of Berar.

26. We see then that in total revenue the Melghat forests have yielded Rs. 8,61,350, and the rest of Berar Rs. 12,39,180.

27. In considering the area and distribution of the forests, the amount of the grazing revenue does not assist us. It is not that the grazing fees deter any one from grazing: all available grazing is gladly taken and would still be gladly taken if we doubled our rates. The grazing rates are fixed; if the area were fixed also, the revenue would remain constant; the cattle increase and the grazing area diminishes. In many places grazing will in time have to be prohibited altogether, and the grass reserved for cutting.

28. Deducting grazing and miscellaneous revenue, then we have :—

	Melghat open.	Melghat reserves.	Total Melghat.	Remaining reserves.	District Forests.
	Rs.	Rs.	Rs.	Rs.	Rs.
Timber	4,50,069	44,309	4,94,378	5,723	52,472
Fuel	50,976	2	50,978	9,377	88.063
Bamboo	97,924	1,02,662	2,00,586	3,551	3,568
Minor produce	27,350	3,044	30,394	6,174	92,741
Waif	1,260	233	1,493	21	17,701

Excluding "grazing" the remaining areas considered from the point of view of the produce they have given of late years; and the produce from reserves compared with that from open forests.

29. In timber then the Melghat supplies nine times what all the rest of Berar does; and in the Melghat the open forests supply ten times what the reserves do.

30. In fuel, South Berar gives nearly double the fuel that the Melghat does; and in the Melghat the reserves give no fuel, and in the South Berar they give only one-ninth of what the open forests do.

The timber in Berar being so small and so much babul being used only as fuel, it is convenient to add together timber, fuel, and waif (which is only trees) and compare this kind of produce with bamboos and minor produce; and we reduce our table down to :—

	Melghat open.	Melghat reserves.	Total.	Remaining. reserves.	District Forests.
	Rs.	Rs.	Rs.	Rs.	Rs.
Timber and fuel	5,02,365	44,544	5,46,849	15,121	1,58,236
Bamboos	97,924	1,02,662	2,00,586	3,551	3,568
Minor produce	27,350	3,044	30,394	6,174	92,741

32. We can now form some idea how Berar is supplied with forest produce (excluding grazing) from the Melghat, and from the remainder of the province, and within these two divisions what part the reserves play as against the open forests.

33. In the Melghat reserves we are glad to sell all we can of old and inferior material where the state of the peuplement permits of its removal; and to facilitate export, we have spent Rs. 78,000 on roads during the last ten years, and we are continuing to make roads. Still, during the last seven years, these Melghat reserves have only just made a few more rupees than have been spent on them.

In the Melghat reserves no restriction on exploitation of material, the removal of which is allowable from the state of the peuplement.

Nevertheless, they have only just paid their way.

34. The bulk of the Melghat produce comes from the open forests, eleven times as much timber and fuel as from the reserves. Bamboos are about equal, and minor produce nine times the value.

In the whole of Berar the bulk of the country's requirements has hitherto been supplied from the open forests.

35. In the remainder of Berar it is the same thing. The open forests have given ten times as much timber, and fifteen times as much minor produce as the reserves (bamboos are very small and scarce).

36. Now considering that in the open forests of the Melghat there is no forest conservancy and no restriction against the removal of produce, and that in South Berar, except in the babul-bans and some other small tracts, forest growth is positively discouraged, the time must come when the open Melghat forests will be well nigh ruined; and in South Berar, forest growth will have quite disappeared on what is by that time left of the rapidly diminishing area of District unreserved forests.

As this continues, the open forests deteriorate and will finally be destroyed.

When the open forests will yield no more, the reserves, seeing their area, their quality, and their distribution, will never satisfy anything like the requirements of the province.

Their area must therefore be increased and their quality and distribution improved.

37. The question then arises where, if the consumption of the province in wood is annually about one-seventh of the figures given above, the future requirements of the people will come from.

38. Certainly not from the reserves. They are neither in area or in quality sufficient, and if something is not now done, when we may still have the time, to arrest the disappearance of forest growth in the open forests and to increase the area of the forests to be reserved for growth of timber and fuel, there will surely be a timber famine at some time not far distant.

39. The remedy is to at once put a stop to the rate at which land is being given out for cultivation in West Berar, by dividing the District unreserved forests into grazing land to remain such permanently and into open forest in which cultivation may extend. This is the first thing to do to safeguard the grazing.

40. Then for the timber and fuel forests we should add to their area as much as we possibly can, and especially in that part of the country most suitable for forest and least suitable for cultivation, and which would best serve the surrounding country.

41. These conditions are met with in the Melghat hills west of our present reserves, and for South Berar in the country between the Matergaon and Penganga Reserves.

Light Grazing.

42. Light grazing was continued during the year in the demarcated State reserves of South Berar.

43. In making over charge to me of the Berar Circle, Mr. Dansey left me a memorandum for my guidance on various matters, and in this memorandum he wrote strongly against the evils of the system of light grazing, and to form his opinion he had seen and minutely inspected the Pathrot, Kharad, and Gondwakri Reserves in the Wun District. I also have carefully studied the subject, and have seen the effects of light grazing in all the remaining reserves of South Berar, except Kinwat, and I am able fully to endorse all that Mr. Dansey wrote on the subject.

44. Light grazing may be considered from the points of view of (1) its theory, (2) its practice. And the subject is of such extreme importance that I may be pardoned for going somewhat fully into it.

45. It is important to mention at once that it was the financial condition of the reserves, that induced Mr. Drysdale to introduce the measure in 1884. This is most unequivocally stated in his memorandum accompanying his No. 831 of the 14th February 1884 to the Commissioner, Hyderabad Assigned Districts.

46. After drawing attention to the unsatisfactory state of the finances of the reserves, he proposes to introduce light grazing as the only means of improving those finances and of making the reserves self-supporting. And he hopes that the measures he proposes will not injure, but will rather improve, the reserves in the matter of natural reproduction.

47. "By light grazing" he means admitting a certain number of cattle (excluding sheep and goats, buffaloes and camels) not exceeding one head per (say) 2½ acres from the commencement of the rains till the end of October, and taking steps to prevent any particular locality from being over-grazed. Such grazing, properly regulated, ought only to have the effect of keeping the growth of grass sufficiently short to admit air and light to the young plants without actually denuding the soil and so exposing it to the direct action of the sun and rain.

"The reserves would in this manner yield a small amount of revenue without suffering any material injury, whilst the popularity of the department would be increased with adjoining villages, and fire protection rendered a matter of less difficulty, &c."

48. The theory of light grazing, as taken from Mr. Drysdale's description of it—and he was the originator of the idea—is, that after several years of continued and successful fire protection, the growth of grass becomes so dense in these South Berar forests that natural production is impeded, if not prevented, and that in the interests of natural reproduction it is necessary to break through this cover to partially expose the soil and to admit air and light. And the practice of light grazing is that the total number of cattle admitted shall be small, say one head to 2½ acres, and that they shall never and nowhere congregate so as to exceed that proportion in any one locality.

49. I believe light grazing wrong in theory, and that it is not feasible in practice.

50. The practical objections to it are :—

(1) It is impossible to prevent cattle herding together in large masses. Granted that it would be straining Mr. Drysdale's views to demand that the cattle should not herd together in their passage into and out of the reserve, it is found that they do herd together and remain together even when they are within the reserve.

(2) Having once grazed over a certain area, they prefer to return and graze over the same area rather than to attack fresh pastures.

(3) They will only graze up to a certain maximum distance from their homes. Any grazing available beyond this will be left untouched.

(4) If the grazing areas opened to them contain hills, they will not ascend the hills, but will remain in the low lands.

(5) It is not possible in practice to compel owners to graze in a part of the forest specially indicated unless it also suits them to remain there.

(6) It is not possible in practice to permit some cattle only, but not all, of a village adjacent to the reserve to graze.

(7) The forest establishment is not, and never can be, strong enough to see that only so many cattle graze over a fixed area, that they scatter and move about and do not herd, &c., and the more complicated the instructions, the more difficult it is to see that the Forest Establishment loyally carry out their orders.

51. It is the nature of cattle to graze in herds and to congregate while grazing. They are gregarious animals, and will do so naturally, and their keepers will, from fear of wild animals, keep them together. This is what I found *everywhere* in the forests I saw. The valleys and basins were invariably over-grazed; the centres of large areas up to which cattle did not come were untouched, and between the two every gradation of the effects of grazing was observed. I found nothing but unanimity of opinion on this point—that it was impossible to regulate light grazing, impossible to compel the cattle to scatter in the proportion required, or to go where their owners did not care for them to go. If any serious attempt were made to so compel them, in the first place the establishment would have to be largely increased, with the grave suspicion that they themselves would have to be supervised to prevent them conniving at what we wished to prevent, and in all probability the measures would be defeated by the owners declining to avail themselves of the grazing offered. I may be permitted to quote Mr. Dansey's words, and what he says is exactly my own experience:—

52. "I have minutely studied the question in the case of the Pathrot, the Kharad, and the Gondwakri Reserves in the Wun District, and the District Forest Officer himself, Mr. Mansukh Rai, is now compelled to agree with me that, however beautiful in theory the idea of 'light grazing' may be, it is not so in practice.

53. "I assert that even if 'light grazing' were practicable, it could do no real good, because it is not the cover which is here now in fault, *but the soil*, to which the tread of cattle, and the abstraction of the grass, can apparently do no good.

54. "But what I desire to demonstrate is that 'light grazing' reduces itself in practice to—

(*a*) heavy grazing over a certain area;
(*b*) no grazing over the rest.

55. "The Pathrot forest was opened to all the cattle of the neighbouring villages which just made up the complement required in the relation of one cow to every three acres, viz., 800 cows.

56. What I saw was this—

(*a*) that for half a mile inwards, the forest had been grazed over to a most injurious extent. There was not a blade of grass the length of my little finger, while the soil was as hard as adamant. There was not a seedling to be seen, although the Ranger and Mr. Mansukh Rai averred that teak seed germinated in plenty at the commencement of the rains. The Ranger said that the cattle had trampled down the seedlings.

57. "My opinion, however, is that in all parts of Pathrot the physical condition of the soil is opposed to the longevity of the seedlings, that they live only to dry up, as the

surface soil itself dries up, and that they die off most rapidly over the grazed areas owing to the greater evaporation from the latter and their greater exposure.

58. " (*b*) That in the centre of the forest there had been no grazing at all.

59. "This is accounted for by the fact that when cattle have grazed progressively over a certain area during the rains, they after a time prefer to return over the same area where succulent young shoots have sprung up in the mean time than to go on taking the coarse grasses which were at first alone available. This circumstance is itself opposed to "light grazing," and is, in fact, one of the most serious objections to it.

60. " On the other hand, in hilly forests like Kharad, what I observed was that all the grazing was confined to the basins and valleys; in other words, the grazing was heavy in those localities where alone valuable species will grow, and did not occur at all on the hills, where we could have suffered it to become even heavy.

61. " I suggested that each forest should be divided into blocks, and that these latter should be opened alternately. But if we examine into the subject carefully, it will be seen that even this measure will not answer; for—

62. " (*a*) If we allow (at the rate of one cow to every three acres of the forest) all the cattle into one block only, that block will be evidently very seriously over-grazed during the period, say one month, for which it is kept open; and this will not prevent the cattle keeping to the basins and valleys and going over the best grounds several times, eschewing the hills, and eschewing the coarse grasses, when better s available.

Moreover, we should find it difficult to get the people to agree to terms which would either necessitate their proceeding very far, at times, to the grazing locality, or to take out passes for one month only.

63. " (*b*) If we allow (at the rate of one cow to every three acres of the *block* opened only) a very limited number of cattle, we shall not induce the people to go in at all, or only the village immediately opposite to that block. And it is a question whether they would take passes for so short a period.

64. " And in any case the result, both under (*a*) and (*b*) would always be the same. The cattle would graze steadily on in a given direction from their village, and then return to re-graze this tract over and over again. Coarse grasses and hilly grounds would be eschewed.

65. " Whether the block be 5 square miles or 20 square miles in extent, and the cattle 500 or 10,000, the result would only be a lesser or a greater area over-grazed—one square mile over-grazed or five square miles over-grazed."

66. My contention, then, is that however possible it may seem on paper to regulate light grazing, in practice it is not feasible.

67. In theory, too, I believe light grazing to be wrong.

68. It is never the case in these forests that the grass is so thick as to require opening to admit light and air to the young seedlings which are being choked below it.

69. In the centre of the Kelapur Reserve in Wun, and of the Matergaon Reserve in Buldana, I passed through and explored places where there were absolutely no signs of grazing; and as both these reserves are large and hilly in the centre, the extent of land offering itself as an example of ungrazed forest was considerable.

70. One had only to step off the path, and open out the grass cover with the hand, to see plenty of seedlings on the ground. I speak of the months of December and January, when there was still dew, and in many places these young plants had reached or almost reached the level of the height of the grass. This was more noticeable in Matergaon, perhaps, than in Kelapur. For in Matergaon the soil does not naturally carry such a heavy crop of grass as in Kelapur, and Kelapur has a far worse fire record than Matergaon, so that one is never quite sure when a particular spot was last burned over; in other words, how many years of protection from fire a place has.

In Matergaon, in company with the Divisional Officer, I could again and again, by standing on an ant-hill, see the young anjan at and above the height of the grass. And it was evident to me that only persistent retention of the grass cover would naturally re-clothe these forests. In over-grazed places in the basins and valleys there were plenty of seedlings to be often seen, but they were not more than a few inches high. When dug out they disclosed a root stock of a young tree of quite ten years old and more.

72. This shows that although there may come up plenty of plants during the rains, these plants do not persist, and I believe this is more due to the breaking of the cover and consequent exposure than to the being browsed or trodden down.

73. It seems to me that the essential to the persistence of a young plant is moisture, and that the maximum possible of moisture is secured to the plant by protection from the sun.

74. Moisture will cause plentiful germination even in the most heavily grazed places, provided that the soil has not been too far hardened by the tread of cattle, and even then seeds lying on the surface will germinate.

75. And young plants thus produced will continue to develop, and will persist as long as the rains last and the dews are heavy. But they cannot fight against the long drought which follows, and the fierce heat of the hot weather, without protection.

76. That continued protection, and by the means of grass only, will in time enable these young plants to persist, is, I think, proved by what I saw in Kelapur and in Matergaon.

77. Now fire protection has continued for 17 years in Kelapur and 15 years in Matergaon, coupled in the central and hilly parts with the exclusion of cattle, so that it may be said that quite 15 years of continued and successful fire protection and of absolute absence of grazing are requisite to the development and persistence of the young plants which almost always exist, and their growth to the height of the grass.

78. It is possible that in 1883, after 10 or 12 years of imperfect fire protection and not absolute absence of grazing, it was observed that there was a large number of young plants below the grass; and the conclusion was wrongly come to that it was the thickness and impenetrability of this grass cover which prevented the young plants coming up. These observations, coupled with the financial condition of the reserves, in all probability brought about light grazing.

79. I think the observers erred in imagining that the grass was preventing the development of the young plants. I believe that, on the contrary it was enabling them, instead of dying down in the hot weather, to in the first years just escape perishing, then to develop a little, until by degrees they had gathered sufficient strength to resist the evil influences of drought and heat.

80. By opening these forests to grazing, after about 10 or 12 years of fire protection and grass cover, and by breaking this cover, all the benefit of these last years of protection was lost, and now after four years of light grazing all these forests, or the grazed portions of them, have been reduced to the condition they presented when first taken up; and there is no difference observable between the forest inside and outside of our boundary.

81. Light grazing is wrong in theory; and has been the curse of these South Berar reserves, destroying all the good of the previous fire protection.

82. The revenue realized on account of light grazing is shown below. It has reached in four years the large figure of Rs. 44,423 :—

Year.	Buldana District.			Basim District.			Akola District.			Wun District.			Total.		
	Rs.	a.	p.	Rs.	a.	p.	Rs.	a.	p.	Rs.	a.	p.	Rs.	a.	p.
1884-85 ...	1,653	4	0	930	0	0	1,793	0	0	1,741	12	0	6,118	0	0
1885-86 ...	3,972	12	0	1,471	0	0	2,678	4	0	2,771	0	0	10,893	0	0
1886-87 ...	3,358	0	0	1,924	8	0	3,419	12	0	4,338	0	0	13,040	4	0
1887-88 ...	4,693	8	0	2,071	6	0	2,179	4	0	5,427	4	0	14,371	6	0
Total ...	13,677	8	0	6,396	14	0	10,070	4	0	14,278	0	0	44,422	10	0

83. I have elsewhere (paragraph 24) given a table to show the revenue of all classes of forest in Berar during the last seven years to bring out that the District forests have supplied far more forest produce for the consumption of the country than have the reserves. And there the grazing and grass revenue of the reserves is given at Rs. 72,047.

If from this be deducted the Rs. 44,423 of light grazing revenue, it is seen that, had light grazing not been permitted, the reserves would only have made Rs. 27,624.

84. This shows what the value of grazing in Berar is, and how difficult it is to resist any outcry for more grazing at the expense of the timber forests.

85. The effects of light grazing may be seen also on the cost of fire protection of the reserves. A reserve like Matergaon, for instance, with an area of 72 square miles, had only Rs. 141 spent on it for fire protection during this last year. The fact is, that from the boundary inwards up to a certain distance is so heavily grazed that there is nothing to burn, and therefore nothing to protect. But the gratitude of the people for the boon of grazing in the reserves may be gauged by the fact that this year 4,980 acres of the interior of Matergaon and 19,160 of Kelapur have been burned.

Communications.

86. The road expenditure in the Melghat during the last nine years, that is, since the opening out of the Melghat by roads was begun, has been:—

Year.		Rupees.		Miles.
1879-80	...	3,693	...	8
1880-81	...	8,481	...	15
1881-82	...	9,405	...	26
1882-83	...	7,162	...	21
1883-84	...	7,476	...	11½
1884-85	...	15,145	...	20½
1885-86	...	9,952	...	7
1886-87	...	8,086	...	Nil.
1887-88	...	18,817	...	23
Total	...	88,167		132

or an average, including maintenance, of Rs. 668 per mile brought on to the list of forest roads.

87. Nearly all this road work has been in and about the reserves of Bairagarh and Gugamal.

In paragraph 24 I have shown that the revenue during the last seven years has been Rs. 1,50,839 from the reserves, and Rs. 7,10,511 from the open forest of the Melghat, in which there is no forest conservancy.

88. As it is quite impossible for the present reserves alone ever to supply as much as now comes out of them in addition to that given by the open forest, and as the consumption, that is, the demand, is not likely to decrease, I have strong hopes that reservation will largely extend into what are now the open forests; and for the sake of the present open forests, I think out of what we can annually afford to spend on roads we should now turn more attention to these open forests and let them also benefit by being opened out by roads.

89. Such revenue as they have hitherto yielded, and during the last seven years it is more than 4½ times the value of the yield from the reserves, has been made without roads except the old "Karas" or dragging roads, which have existed from time immemorial, and on which only a trifle has been spent of late years.

90. When the road system contemplated for the reserves is finished, we should devote all we can spare on these open forests.

Conclusion.

91. In the above remarks the propositions that I have desired to prove are that we must at once fix our permanent grazing area and extend our timber area.

92. Grazing in Berar is the life of the people, and we are bound to safeguard it. I have shown that we have not done so hitherto.

93. I have also shown where, in the past, the remaining forest produce has come from; that is, that it has come from the open forests, and not from the reserves.

94. These open forests are yearly diminishing in area by the extension of cultivation, but the requirements of the people do not grow less. As for quality, there is none in these open forests, for conservancy is positively discouraged.

95. The problem, then, is, from where will the requirements of the people in forest produce be supplied, when what then remains of the District forests has been irretrievably denuded. For these reasons we are bound to extend the area of our present timber forests and in directions where they will be most useful.

96. Then again, to improve the quality of our timber reserves, we must absolutely give up the fallacy of light grazing. Grazing in unstocked forest never was and never could be right, especially under such conditions of climate as obtain in Berar, and it is folly to try and prop up the finances of the reserves by introducing such a suicidal step as the admitting of cattle to graze.

97. The measure was, of course, an immensely popular one; but its introduction has done far more harm than the Rs. 44,000 of revenue which it has given have benefited the State's coffers, for it has thrown back the reserves of South Berar into the condition they presented when first taken up.

98. All other considerations pale before these; the grazing areas must be fixed and made permanent, the timber forests must be extended, and light grazing for ever abolished.

R. WHITTALL,

Officiating Conservator of Forests,

Hyderabad Assigned Districts.

APPENDICES.

FORESTS.

ANNUAL FORM No. 40.—*Area of B. Forests*, 1887-88.

Division	Range	Civil District or Territory.	Name of Forest.	Area on 1st April 1887. Acres.	Area on 1st April 1887. Equivalent in square miles.	Added during the year Acres	Excluded or transferred to other heads Acres	Area on 31st March 1888 Acres	Area on 31st March 1888 Equivalent in square miles.	No and date of notification of addition or transfer	Remarks.
			DEMARCATED STATE FORESTS.								
Ellichpur	Bairagarh	Ellichpur	Bairagarh Reserve ...	272,040	425	..	...	272,040	425		
	Gugama	Do. ...	Gugamal do ...	115,044	180	...	...	115,044	180		
			Chikalda do. ..	2,400	4	..	...	2,400	4		
				389,484	609			389,484	609		
Amraoti	Amra Hills	Amraoti ..	Amraoti Hills Reserve	50,973	80			50,973	80		
Akola ...		Akola ..	Loni do ..	908	1		.	908	1		
		Do ...	Bhongson do	1,898	3		..	1,898	3		
	Ghatbori ..	Akola, Buldana and Basim.	Ghatbori do ..	23,760	37		..	23,760	37		
		Akola ...	Mandwa do. ..	5,475	9	..		5,475	9		
				31,511	49			31,511	49		
Buldana	Gorumatergaon	Buldana ..	Gorumatergaon Reserve.	45,947	72		..	45,947	72		
	Amdari ..	Do. ..	Amdari Reserve ..	13,717	21	.		13,717	21		
				59,664	93	..		59,664	93		
Basim ...	...	Basim ..	Pengunga Reserve ..	11,575	18	...	. .	11,575	18		
		Do ..	Ru do ..	6,647	10	..		6,647	10		
		Do .	Gehali do. .	9,507	15		.	9,507	15		
	Kinwat .	Do .	Kinwat do. ..	52,558	82	...		52,558	82		
				80,287	125	...	. .	80,287	125		
Wun	Kelapur .	Wun ..	Kelapur do ..	40,289	63	...	. .	40,289	63		
	Wun ...	Do. .	Tiwala do. .	4,873	8	.	. .	4,873	8		
	Yeotmal	Do .	Gondwakri do .	16,759	26		. .	16,759	26		
	Do .	Do. .	Kharad do. ..	15,514	24	...	..	15,514	24		
	Darwa	Do. .	Anjankhar do ..	7,634	12	.	...	7,634	12		
	Do	Do. .	Lonbehel do ..	9,187	14		.	9,187	14		
	Do	Do. ..	Pathrot do ..	2,689	4	...	..	2,689	4		
				96,745	151			96,745	151		
			Total ...	708,678	1,107	...	...	708,678	1,107		
			DISTRICT RESERVED FORESTS								
Ellichpur	...	Ellichpur ..	Woods (Babul bans)	1,390	2		...	1,390	2		
			Bamnas (grass lands)	63	..		..	63	...		
			Grazing lands .	34,529	54	*11	*4	34,536	54		*Error detected in classification of land
				35,982	56	11	4	35,989	56		
Amraoti	...	Amraoti ...	Wood ..	10,948	17		..	10,948	17	†Berar Secy's No 845 R. of 6th April 1887	†Transfer.
			Bamnas ..	7,948	12	..	†98	7,858	12		
			Grazing lands .	131,390	206	†96	†57	131,434	206		
				150,286	235	96	143	150,238	235		‡Berar Secy's No 1330 B of 23rd May 1887
Akola	...	Akola ...	...	49,199	77	.	..	49,199	77		
Buldana	...	Buldana ...		5,132	8	..		5,132	8		
Basim	...	Basim .	...	18,528	29		.	18,528	29		
Wun	..	Wun ...	Woods .	2,695	4			2,695	4		
			Bamnas ..	16,476	26		.	16,476	26		
				19,171	30			19,171	30		
			Total ...	278,598	435	97	147	278,547	435		
			DISTRICT UNRESERVED FORESTS								
Ellichpur	Melghat Taluk Remained of District	Ellichpur .	Unreserved Forests	586,275	916		..	586,275	916		
			Do. .	286	...	202	...	488	1		
	Akola Taluk, land in Melghat Hills	Akola ...	Do ..	1,460	2	...		1,460	2		
	Jalgaon Taluk, land in Melghat Hills	Do. ..	Do. ..	4,476	7	.	.	4,476	7		
				592,497	925	202		592,699	926		
Amraoti .	Amraoti Taluk, land in Amraoti Hills	Amraoti .	Do ...	2,358	4	...	...	2,358	4		
	Chandur Taluk, land in Amraoti Hills	Do. ..	Do. .	1,008	2	.		1,008	1		
	Remained of District	Do. ..	Do. .	14,486	23	148	95	14,539	23		
				17,847	29	148	95	17,900	28		
Akola ..	...	Akola ..	Do. ..	94,781	132	13,497	8,012	90,236	141		
Buldana ...	...	Buldana ...	Do.	117,507	184	1,905	8,075	111,337	174		
Basim .	...	Basim ...	Do	420,718	657	4,053	14,569	410,152	641		
Wun ...	...	Wun ...	Do	430,240	671	115	5,079	425,274	664		
			Total ..	1,061,594	2,590	19,226	35,830	1,047,568	2,274		

FORESTS.

ANNUAL FORM No. 50.—*Prosecutions for breaches of Forest Rules during* 1887-88.

Forest Division and Civil District	Cases pending from 1886-87.	New cases of the year.					Total cases.	Disposed of during the year.						Cases pending at close of year.
		Injury to forest by fire.	Unauthorised felling or removal of wood and minor forest produce.	Grazing without permission, or in breach of rules, causing injury to forest.	Other offences.	Total new cases of the year.		Convictions.		Acquittals.		Total.		
								Cases.	Persons.	Cases.	Persons.	Cases.	Persons.	
ELLICHPUR DISTRICT														
Demarcated State Forests	.	3	12	...	1	15	15	14	38	1	1	15	39	.
District Reserved Forests	..	..	1	...	...	1	1	1	2	...	..	1	2	.
Unreserved Forests Melghat Taluk ...	...				92	92	92	74	113	18	24	92	137	
		3	13		93	108	108	89	153	19	25	108	178	
AMRAOTI DISTRICT.														
Demarcated State Forests ...		1	7	7	1	16	16	13	28	3	10	16	38	
District Reserved Forests ..	3	1	45	7	10	63	66	57	96	9	14	66	110	
	3	2	52	14	11	79	82	70	124	12	24	82	148	.
AKOLA DISTRICT.														
Demarcated State Forests		1	2	...	2	5	5	3	6	2	4	5	10	
District Reserved Forests ..	..	.	32	1	1	34	34	24	24	10	15	34	39	
	..	1	34	1	3	39	39	27	30	12	19	39	49	..
BULDANA DISTRICT.														
Demarcated State Forests			3	...	1	4	4	3	6	1	1	4	7	.
District Reserved Forests	2	...	22		2	24	26	13	17	11	26	24	43	2
	2		25	.	3	28	30	16	23	12	27	28	50	2
BASIM DISTRICT.														
Demarcated State Forests	..	.	4	2		6	6	5	9	1	1	6	10	
District Reserved Forests	..	...	26	1	71	98	98	86	113	9	18	95	131	3
			30	3	71	104	104	91	122	10	19	101	141	3
WUN DISTRICT.														
Demarcated State Forests		.	9		2	11	11	9	17	2	9	11	26	
District Reserved Forests	...	.	16		2	18	18	16	22	2	4	18	26	..
	...	..	25		4	29	29	25	39	4	13	29	52	
Total	5	6	178	18	185	387	392	318	491	69	127	387	618	5
ABSTRACT														
Demarcated State Forests		5	36	9	7	57	57	47	104	10	26	57	130	...
District Reserved Forests ...	5	1	142	9	86	248	243	197	274	41	77	238	351	5
District Unreserved Forests .			..		92	92	92	74	113	18	24	92	137	.
Total	5	6	178	18	185	387	392	318	491	69	127	387	618	5

ANNUAL FORM No. 51.—*Area of Forest Tracts protected from Fire during the dry Season* 1888,—*to accompany Report for* 1887-88.

Division.	Forest Tracts.	Year in which protection commenced.	Area actually protected up to 30th June 1887	During dry Season of 1888.			Cost during the season up to 30th June 1888	Total cost.
				Area attempted to be protected.	Failures.	Actually protected.		
			Acres	Acres.	Acres.	Acres.	Rs.	Rs.
Ellichpur District	Raipur block of Bairagarh Reserve ...	1870	14,281	14,281		14,281	297	7,832
	Remainder of Bairagarh Reserve ..	1872	257,130	257,818	800	257,018	1,234	12,740
	Gugamal Reserve ..	1877	115,044	115,044	60	114,984	884	6,113
			386,405	387,093	860	386,233	2,415	
Amraoti District	Chirodi block and portion of Amraoti Hills Reserve ..	1881	11,561	13,071	1,233	11,838	348	2,690
Akola District	Loni Reserve	1882	908	908		908	...	47
	Bhongaon Reserve	1882	1,368	1,368	.	1,368		
	Ghatbori do. ...	1881	23,760	23,760		23,760	54	3,029
	Mandwa do.	1882	5,475	5,475		5,475		
			31,511	31,511		31,511	54	
Buldana District ...	Gerumatergaon Reserve ...	1880	45,946	45,947	4,980	40,967	141	4,445
	Amdari do	1883	13,686	13,717	15	13,702	109	777
			59,632	59,664	4,995	54,669	250	
Basim District	Penganga Reserve ...	1880	11,575	11,575		11,575	95	2,310
	Rui do.	1883	6,647	6,647	130	6,517	41	443
	Gahali do.	1885	9,507	9,507		9,507	122	412
	Kinwat do. . ..	1881	51,558	52,558		52,558	643	6,710
			79,287	80,287	130	80,157	901	
Wun District	Kelapur Reserve	1881	38,799	40,899	19,160	21,139	802	3,864
	Tiwasala do . .	1882	2,843	4,573	1,205	3,368	101	373
	Gondwakri do	1882	15,813	16,350	1,360	15,020	801	1,357
	Kharad do.	1882	8,146	15,514	5	15,509	202	1,940
	Anjankhed do. ...	1882	7,634	7,634		7,634	143	955
	Lonbehel do.	1882	9,187	9,187	..	9,187	153	1,02
	Pathrut do. ...	1882	2,984	2,989		2,989	110	94
			85,326	96,745	21,700	75,045	1,607	
	Total .		653,602	668,371	29,918	639,453	5,575	

FORESTS.

ANNUAL FORM No. 52.—*Area of Plantations*, 1887-88.

Division.	Name of Plantation.	Area in acres. On 1st April 1887.	Added during the year.	Excluded during the year.	Area on 31st March 1888.	Receipts. Of the year.	Charges. Of the year.	Remarks.
	REGULAR PLANTATIONS.							
	BAIRAGARH RESERVE.							
Ellichpur District ...	Abapur	120	...	...	120	...	...	Teak and Bamboo.
	Bujru	31	...	...	31	...	...	Do.
	Durapati	11	...	...	11	...	...	Do.
	Jambulwari	600	...	...	600	...	...	Teak.
	Kulkaz	1	...	...	1	...	91	Bamboos.
	Lubu	279	...	...	279	...	...	Teak.
	Pili	52	...	...	52	...	...	Do.
	Pipalkotah	160	...	...	160	...	...	Teak and Bamboo.
	Rakladoh	13	...	...	13	...	...	Do.
	Sjoli	110	...	...	110	...	...	Do.
	Sholi and Kuritha	30	...	...	30	...	...	Teak.
	Sembadoh	2	...	...	2	...	...	Teak and Bamboo.
	Miscellaneous	...	...	...	...	...	71	Collecting and carrying seed.
	Total ...	1,409	...	...	1,409	...	162	
Wun District ...	Pathrot Reserve	50	...	...	50	...	1,278	
	Total Regular Plantations ...	1,459	...	...	1,459	...	1,440	
	CULTURAL OPERATIONS.							
Direction ...	Miscellaneous	...	...	...	...	...	7	
Ellichpur District ...	Bairagarh Reserve	244	...	244	...	...	...	Failure.
	Gugamal Do.	751	...	...	751	...	...	
	Chikalda Do.	...	...	...	...	...	132	Forest garden.
	District Reserved Forests ...	...	2	...	2	...	274	Date and Lemon plantation.
	Total ...	995	2	244	753	...	406	
Amraoti District ...	Amraoti Hills Reserve ...	1,420	...	...	1,420	...	120	Teak, Tewas, Babul and Bamboo sowing broad cast.
	District Reserved Forests ...	819	96	...	917	...	436	Sown with teak, tewas, shisam, saondal, and bamboo seed and with mango stones and fruit trees in a nursery at Karanja for road-side planting; and with teak and bamboo seed at Yeota.
	Total ...	2,239	96	...	2,337	...	556	
Akola District ...	Loni Reserve	360	25	...	385	...	42	Broad cast sowing.
	Bhongaon Reserve	370	45	...	415	...	15	
	Ghatburi Reserve	527	8	...	590	...	40	
	District Reserved Forests ...	129	...	...	129	...	...	
	Total ...	1,446	78	...	1,519	...	97	
Buldana District ...	Geru Matergaon Reserve ...	909	...	...	909	...	...	
	Amdari Reserve ...	87	...	...	87	...	...	
	Miscellaneous ...	...	...	...	...	...	10	
	Total ...	996	...	...	996	...	10	
Basim District ...	Pengunga Reserve ...	1,950	141	...	2,091	...	200	Teak and shisham.
	Rui do. ...	91	773	...	864	...	87	Teak, Bijasal, Dhaora, Moha.
	Gahuli do. ...	...	...	...	...	...	69	
	Kinwat do. ...	60	42	...	102	...	62	Teak, Dhaora and Behera.
	District Reserved Forests ...	...	1,104	...	1,104	...	282	Teak and Babul.
	Total ...	2,101	2,060	...	4,161	...	700	
Wun District ...	Kelapur Reserve	107	25	...	132	...	143	Bamboo, Ain, Dhaora, Moha, Mokha, Lendia, sowing broad cast.
	Tiwasala do.	41	10	...	51	...	12	
	Gondwakri do.	142	10	...	152	...	2	
	Kharad do.	142	20	...	162	...	55	
	Anjankhed do.	272	5	...	277	...	1	
	Lonbeke do.	1	30	...	31	...	9	
	Pathrot do.	1	50	...	51	...	16	
	Total ...	716	150	...	866	...	238	
	Total Cultural Operations ...	8,493	2,383	244	10,632	...	2,014	
	Total ...	9,952	2,383	244	12,091	...	3,454	

FORESTS.

ANNUAL FORM No. 53.—*Trees felled or girdled by Government Agency during the year* 1887-88—(*Improvement fellings.*)

Division.	Trees felled or girdled.		Remarks.
	Description.	Number.	
Ellichpur	Amba	1	
	Bel	1	
	Bhosa	1	
	Chichola	1	
	Dhamin	2	
	Dhaora	92	
	Haldu	95	
	Kahu	3	
	Karka	1	
	Kud	2	
	Kuram	3	
	Lendia	112	
	Moha	1	
	Mohin	2	
	Sajar	149	
	Shisham	3	
	Teak	3,580	
	Tembrun	2	
	Tendu	2	
	Tiwas	12	
	Total ...	4,065	

FORESTS.

ANNUAL FORM No. 54.—*Out-turn of Timber and Firewood* during the year* 1887-88.

Division.	Description of materials.	Out-turn in cubic feet.								Remarks
		Selection fellings.	Clearances.	Thinnings	Total	Removed by Government Agency.	Purchasers	Free grant.	Right holders	
	B.—DEMARCATED STATE FORESTS.	Improvement fellings.	...	Felling by working plan.						
Ellichpur	Teak Tiwas and Shisham cft.	14,117	...	27,290	41,407	...	41,407	...	...	
	Other wood ... ,,	5,255	...	3,244	8,499	...	8,499	...	.	
Amraoti ...	Timber ... ... cft.	...	...	...	...	..	117	.	...	
	Firewood ... . ,,	...	...	...	...	..	15,612	...	...	
	Charcoal .. ... ,,	..	...	...	...	.	168	..	...	
Akola ..	Timber ... .. cft	...	.	...	..	...	4,396	..	...	
	Firewood ... ... ,,	...	.	...	...	...	283	...	.	
Buldana ...	Timber ... cft.	...	...	...	...	...	224	.	...	
	Firewood and Charcoal ,,	...	..	...	...	...	15,239	..		
Basim ..	Timber ... ... cft.	...	...	...	...	...	12	†75	.	†Teak goles, Nq.
	Firewood ... ... ,,	...	...	...	...	...	10,780	..	...	
Wun ..	Timber ... ... cft.	...	..	...	...	...	375	...	...	
	Firewood ... ... ,,	...	...	...	...	...	400	..	..	
	DISTRICT RESERVED FORESTS.									
Ellichpur ...	Firewood ... ... cft.	...	...	...	...	...	3,129	...	...	
Amraoti ...	Timber, Firewood, &c. cft.	...	...	...	...	...	...	...	.	Sold by auction.
Akola ..	Timber ... . cft.	...	...	...	...	...	446	...		
	Firewood ... ,,	...	...	...	...	...	1,972	...	.	
	Charcoal ... ... ,,	...	...	...	...	...	14	.		
Buldana ...	Timber . . cft.	...	...	...	...	...	37,765	...	...	
	Firewood ... ... ,,	...	...	...	...	..	60,032	.		
Basim ..	Teak goles ... . No.	...	...	...	...	...	2,426	80	...	
	Other wood .. .. cft.	...	...	...	...	...	16,968	115		
	Firewood ... ... ,,	...	..	...	...	...	48,255	52	..	
	Charcoal ... ... ,,	...	...	...	...	...	328	...	...	
Wun ..	Timber ... .. cft	...	...	...	...	...	8,070	...	...	
	Firewood .. . ,,	...	...	..	...	...	5,662	.	...	
	Charcoal ... ... ,,	...	...	...	...	...	1,178	...	...	
	DISTRICT UNRESERVED FORESTS.									
Ellichpur ..	Melghat Teak, Tewas, & Shisham, cft.	...	...	...	...	...	150,508		...	
	Other wood ... ,,	...	..	...	...		164,112	..		
	Firewood ... . ,,	...	...	...	...	...	113,629	..		
	Charcoal ... ... ,,	...	...	...	...	...	136,790	.	.	
	Abstract.									
	Teak goles .. ... No	..	...	...		...	2,476	155	.	
	Teak, Tewas, & Shisham, cft.	14,117	...	27,290	41,407	...	223,005	.	.	
	Other wood ,,	5,255	...	3,244	8,499	...	2'1,154	115	...	
	Firewood and charcoal ,,	...	...	...	...	...	419,846	52	...	

* Charcoal should be shown by its equivalent in firewood.

FORESTS.

ANNUAL FORM No. 55.—*Out-turn of Minor Forest Produce during the year* 1887-88.

Division.	Description of produce.	Produce removed or utilized.									
		By Government Agency.		By Purchasers.		By free grants.		By right holders.		Total.	
		Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	DEMARCATED STATE FORESTS.										
Ellichpur District	Bamboos ... ... No.	...	...	1,373,294	20,601	...	...	...	...	13,73,294	20,601
	Lac ... ... Tons.	...	...	1/6	3	...	...	...	...	1/6	3
	Roots and fruits ... ... ,,	...	...	107	835	...	...	...	...	107	835
	Miscellaneous ... ... ,,	...	...		7	...	...	...	...		7
	Total	...	...	...	21,446	...	...	...	...	...	21,446
Amraoti do.	Grazing in Chirodi, buffaloes ... No.	...	...	207	207	...	...	...	...	207	207
	Do. in grazing lands do. ,,	...	...	1,147	287	...	...	...	...	1,147	287
	Do. cows, &c. ... ,,	...	...	6,064	912	...	...	...	...	6,064	912
	Do. sheep and goats ... ,,	...	...	9,570	598	...	...	...	...	9,570	598
	Grass in Chirodi block ... Tons.	...	...	2,413	3,155	...	...	...	...	2,413	3,155
	Grass sales on Amraoti nakan by contract	...	...	...	3,576	...	...	...	...	...	3,576
	Minor produce ... ... ,,	...	...	60	96	...	...	...	...	60	96
	Total	...	...	...	8,831	...	...	...	...	...	8,831
Akola do.	Grass (fodder) ... ... Tons.	...	...	1,950	1,110	...	...	...	...	1,950	1,110
	Grazing buffaloes ... ... No.	...	...	474	239	...	...	...	...	478	239
	Do. cows, &c. ... ... ,,	...	...	7,701	1,940	...	...	...	...	7,701	1,940
	Minor produce ... ... ,,	...	...	1/7	4	...	...	...	...	1/7	4
	Total	...	...	...	3,293	...	...	...	...	...	3,293
Buldana do.	Grass ... ... Tons.	...	...	3,319	2,368	...	...	...	...	3,349	2,368
	Grazing buffaloes ... ... No.	...	...	1,299	702	...	...	...	...	1,309	702
	Do. cows, &c. ... ... ,,	...	...	15,974	3,994	...	...	...	...	15,974	3,994
	Total	...	...	...	7,064	...	...	...	...	...	7,064
Basim do.	Bamboos ... ... No.	...	...	300	6	...	...	...	...	300	6
	Grass ... ... Tons.	...	...	1,533	812	70	35	...	...	1,633	847
	Grazing buffaloes ... ... No.	...	...	421	198	...	...	...	...	421	198
	Do. cows ... ... ,,	...	...	8,016	1,573	...	...	...	...	8,016	1,573
	Lac ... ... Tons.	...	...		8	...	...	...	...		8
	Total	...	...	...	2,897	...	35	...	...	...	2,932
Wun do.	Bamboos ... ... No.	...	...	33,925	339	...	...	...	...	33,925	339
	Grass (fodder) ... ... Tons.	...	...	7,714	4,410	...	...	...	...	7,714	4,410
	Grazing buffaloes ... ... No.	...	...	707	353	...	...	...	...	707	353
	Do. cows, &c. ... ... ,,	...	...	20,295	5,074	...	...	...	...	20,295	5,074
	Date leaves ... ... Tons.	...	...	2	16	...	...	...	...	2	16
	Total	...	...	...	10,192	...	...	...	...	...	10,192
	DISTRICT RESERVED FORESTS.										
Ellichpur do.	Grass sales by auction ...	...	...	...	316	...	...	...	...	...	316
	Grazing buffaloes ... ... No.	...	...	3,616	3,482	...	...	...	...	3,616	3,482
	Do. cows ... ... ,,	...	...	17,618		...	...	...	...	17,618	
	Do. sheep and goats ... ,,	...	...	2,946		...	...	...	...	2,946	
	Amrai Mohadi sales by auction...	...	...	...	324	...	...	...	...	...	324
	Total	...	...	...	4,122	...	...	...	...	...	4,122
Amraoti do.	Grazing buffaloes ... ... No.	...	...	27,832	6,965	...	...	...	...	27,832	6,965
	Do. cows, &c. ... ... ,,	...	...	117,272	14,657	...	...	...	...	117,272	14,657
	Do. sheep and goats ... ,,	...	...	76,474	4,762	...	...	...	...	76,474	4,762
	Grass sales by auction ...	...	...	...	10,473	...	...	...	...	...	10,473
	Amrai Mohadi sales by auction..	...	...	...	2,596	...	...	...	...	...	2,596
	Total	...	...	...	39,495	...	...	...	...	...	39,495

FORESTS.

ANNUAL FORM No. 55.—*Out-turn of Minor Forest Produce during the year* 1887-88—(continued).

Division.	Description of produce.	Produce removed or utilized									
		By Government Agency.		By Purchasers.		By free grants.		By right holders.		Total.	
		Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Akola District	Bamboos ... ... No.	...	...	35	1	...	...	...	...	35	1
	Grass (fodder) ... ... Tons.	...	...	1644	1,106	...	...	...	...	1644	1,106
	Grass sales by auction ...	...	...	...	5,911	...	...	...	...	...	5,911
	Grazing buffaloes ... ... No.	...	...	9,041	2,232	...	...	...	...	9,041	2,232
	Do. cows ... ... ,,	...	...	68,569	8,569	...	...	...	...	68,569	8,569
	Do. sheep and goats ... ,,	...	...	22,105	427	...	...	...	...	22,105	427
	Minor produce ... ... Tons.	...	...	16	433	...	...	...	...	16	433
	Total ...	...	...	...	18,699	...	...	...	...	...	18,699
Buldana do.	Grass ... ... Tons.	...	...	1,207	849	...	...	...	...	1,207	849
	Grazing buffaloes ... ... No.	...	...	19,984	5,536	...	...	...	...	19,984	5,536
	Do. cows, &c. ... ... ,,	...	...	125,677	16,614	...	...	...	...	125,677	16,614
	Do. sheep and goats ... ,,	...	...	89,253	1,439	...	...	...	...	89,253	1,439
	Mango and moha ... ... Tons.	...	...	210	1,122	...	...	...	...	210	1,122
	Lime ... ... ,,	...	...	1	28	...	...	...	...	1	28
	Total ...	...	...	...	25,588	...	...	...	...	...	25,588
Basim do.	Bamboos ... ... No.	...	...	275	6	...	...	...	...	275	6
	Grass ... ... Tons.	...	...	667	665	...	...	...	...	667	665
	Grazing buffaloes ... ... No.	...	...	20,011	23,403	...	...	...	...	20,011	23,403
	Do. cows ... ... ,,	...	...	139,784		...	...	...	...	139,784	
	Do. sheep and goats ... ,,	...	...	41,761		...	...	...	...	41,761	
	Amrai and Mohadi ... ... Tons.	...	...	95	1,286	...	...	...	...	95	1,286
	Lime	...	...	...	77	...	...	...	...	...	77
	Miscellaneous auction sale ...	...	...	...	275	...	...	...	...	...	275
	Total ...	...	...	...	25,802	...	...	...	...	...	25,802
Wun do.	Bamboos ... ... No.	...	...	48,850	488	...	...	...	...	48,850	488
	Grass fodder ... ... Tons.	...	...	2,548	1,274	...	...	...	...	2,548	1,274
	Grazing buffaloes ... ... No.	...	...	49,250	12,240	...	...	...	...	49,250	12,240
	Do. cows ... ... ,,	...	...	235,910	36,892	...	...	...	...	235,910	36,892
	Do. sheep and goats ... ,,	...	...	91,756	5,712	...	...	...	...	91,756	5,712
	Amrai Mohadi sales by auction... ...	...	...	...	3,762	...	...	...	...	...	3,762
	Total ...	...	...	...	60,368	...	...	...	...	...	60,368
	DISTRICT UNRESERVED FORESTS.										
Ellichpur do.	Melghat	...	...	...	...	...	...	...	...	...	...
	Bamboos ... ... No.	...	...	876,591	13,149	...	...	...	...	876,591	13,149
	Grass ... ... Tons.	...	...	5,243	3,279	...	...	...	...	5,243	3,279
	Grazing camels ... ... No.	...	...	54	9,906	...	...	...	...	54	9,906
	Do. buffaloes ... ... ,,	...	...	14,834		...	...	...	...	14,834	
	Do. cows ... ... ,,	...	...	92,320		...	...	...	...	92,320	
	Do. sheep and goats ... ,,	...	...	54,833		...	...	...	...	54,833	
	Lac ... ... Tons.	...	...	5	86	...	...	...	...	5	86
	Teak leaves ... ... ,,	...	...	333	897	...	...	...	...	333	897
	Roots and fruits ... ... ,,	...	...	752	3,593	...	...	...	...	752	3,593
	Gum ... ... ,,	...	...	4	35	...	...	...	...	4	35
	Miscellaneous ... ... ,,	...	...	17	97	...	...	...	...	17	97
	Total ...	...	...	...	31,042	...	...	...	...	...	31,042
	ABSTRACT :—										
	Bamboos ... ... No.	...	...	2,333,370	34,590	...	...	...	...	2,333,370	34,590
	Grass ... ... Tons.	...	...	36,818	19,068	70	35	...	...	36,888	19,063
	Grass sale by auction ...	...	...	...	20,276	...	...	...	...	...	20,276
	Grazing camels ... ... No.	...	...	54	160,363	...	...	...	...	54	160,363
	Do. buffaloes ... ... ,,	...	...	148,617		...	...	...	...	148,617	
	Do. cows and bullocks ... ,,	...	...	916,050		...	...	...	...	916,050	
	Do. sheep and goats ... ,,	...	...	388,066		...	...	...	...	388,066	
	Roots and fruits ... ... Tons.	...	...	859	4,428	...	...	...	...	859	4,428
	Lac ... ... ,,	...	...	6	97	...	...	...	...	6	97
	Teak leaves ... ... ,,	...	...	333	897	...	...	...	...	333	897
	Date do. ... ... ,,	...	...	2	16	...	...	...	...	2	16
	Gum ... ... ,,	...	...	4	35	...	...	...	...	4	35
	Lime ... ... ,,	...	...	1	105	...	...	...	...	1	105
	Mango and Moha ... ... ,,	...	...	305	2,408	...	...	...	...	305	2,408
	Amrai and Mohadi sale by auction	...	...	...	6,664	...	...	...	...	...	6,664
	Miscellaneous	...	...	93	912	...	...	...	...	93	912
	Total ...	...	...	...	2,58,530	...	35	...	...	...	2,58,874

FORESTS.

ANNUAL FORM No. 57.—*Abstract showing the value of Live and Dead Stock for the year* 1887-88.

Description of timber and other produce.	On hand at commencement of the year.			On hand at close of the year.			Difference in value.		Remarks.
	No.	Cubic feet.	Value.	No.	Cubic feet.	Value.	In favour of the year.	Against the year.	
DIRECTION OFFICE.			Rs.			Rs	Rs.	Rs.	
Surveying and other instruments ...	11	...	...	11	...	...	...	...	
Tools	18	...	15	18	...	10	...	...	
Office furniture	114	...	569	116	...	417	...	...	
Tents	8	...	895	8	...	897	...	...	
Miscellaneous	47	...	110	51	...	93	...	...	
Elephant	1	...	3,000	1	...	2,700	...	...	
Total ...	199	...	4,589	205	...	3,817	...	772	
ELLICHPUR DIVISION.									
Surveying and other instruments ...	18	...	...	18	...	...	...	...	
Tools	672	...	876	672	...	448	...	...	
Office furniture	186	...	1,190	194	...	816	...	...	
Tents	4	...	732	6	...	578	...	...	
Bungalows	2	...	8,000	2	...	8,000	...	...	
Miscellaneous	234	...	500	251	...	358	...	...	
Elephant	1	...	800	1	...	500	...	...	
Bullocks	5	...	150	5	...	125	...	...	
Buffaloes	2	...	60	2	...	50	...	...	
Total ...	1,116	...	12,308	1,151	...	10,875	...	1,433	
AMRAOTI DIVISION.									
Surveying and other instruments ...	3	...	...	5	...	16	...	...	
Tools	64	...	111	60	...	74	...	...	
Office furniture	52	...	265	54	...	205	...	...	
Tents	3	...	542	3	...	362	...	...	
Miscellaneous	31	...	50	40	...	70	...	...	
Buffaloes	1	...	15	1	...	12	...	...	
Total ...	154	...	984	163	...	739	...	245	
AKOLA DIVISION.									
Tools	236	...	...	236	...	...	...	...	
Office furniture	43	...	209	46	...	142	...	...	
Tents	2	...	454	3	...	398	...	...	
Miscellaneous	50	...	...	49	...	...	...	...	
Buffaloes	...	...	...	1	...	16	...	...	
Total ..	331	...	663	335	...	556	...	107	
BULDANA DIVISION.									
Surveying and other instruments ...	5	...	...	5	...	...	...	...	
Tools	100	...	...	99	...	...	...	...	
Office furniture	19	...	16	40	...	230	...	...	
Tents	3	...	509	4	...	988	...	...	
Miscellaneous	35	...	27	91	...	96	...	...	
Total ...	162	...	552	239	...	614	62	...	
BASIM DIVISION.									
Surveying and other instruments ...	10	...	...	10	...	...	...	...	
Tools	229	...	100	250	...	101	...	...	
Office furniture	60	...	70	59	...	50	...	...	
Tents	4	...	518	4	...	316	...	...	
Miscellaneous	51	...	54	50	...	36	...	...	
Elephant	1	...	1,112	...	...	...	...	...	
Total ...	355	...	1,854	383	...	533	...	1,321	
WUN DIVISION.									
Surveying and other instruments ...	33	...	...	34	...	...	...	...	
Tools	76	...	...	107	...	...	...	...	
Office furniture	60	...	...	60	...	...	...	...	
Tents	3	...	500	3	...	347	...	...	
Miscellaneous	80	...	...	82	...	...	...	...	
Elephant	...	...	...	1	...	...	...	...	
Buffaloes	...	...	...	3	...	42	...	...	
Total ...	260	...	500	290	...	387	...	118	
Grand Total ...	2,577	...	21,450	2,765	...	17,521	62	3,991	
Net ...	...	...	...	...	...	...	...	3,929	

FORESTS.

ANNUAL FORM No. 58.—*Summary of Revenue and Expenditure of the different District Forests during* 1887-88.

Budget Heads.—Revenue.	Direction Office.	District Forests.						Total.
		Akola.	Amraoti.	Buldana.	Basim.	Ellichpur.	Wun.	
	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
I.—Timber and other produce removed from the forests by Government Agency:—								
a. Timber	...	...	...	...	...	...	...	...
b. Firewood and charcoal	...	...	...	...	...	...	...	...
c. Bamboos	...	...	...	...	...	...	...	...
d. Sandal-wood	...	...	...	...	...	...	...	...
e. Grass and other minor produce ...	...	...	...	...	...	...	...	...
II.—Timber and other produce removed from the forests by consumers or purchasers:—								
a. Timber	...	570 5 6	248 12 1	5,598 14 3	3,753 10 0	88,121 12 11	1,776 11 9	1,00,070 2 6
b. Firewood and charcoal	...	13,266 9 1	19,323 11 0	2,082 14 3	1,672 10 9	7,629 4 9	215 12 0	43,590 13 10
c. Bamboos	...	0 11 0	...	...	11 8 0	33,749 13 0	827 12 0	34,589 12 0
d. Grazing and fodder grass	...	21,554 4 1	45,631 5 11	31,501 11 6	27,041 3 11	16,923 8 0	65,954 11 6	2,08,666 12 11
e. Other minor produce	...	436 8 6	2,694 13 0	1,149 11 0	1,646 5 9	5,876 5 6	3,778 6 3	15,582 1 6
III.—Drift and waif wood and confiscated forest produce:—	...	323 12 6	207 5 3	193 5 6	375 12 1	1,286 6 11	87 2 6	2,473 12 9
IV.—Revenue from forests not managed by Government:—								
a. Duty on foreign timber and other forest produce	...	...	...	...	...	...	...	...
b. Revenue from shared and private forests..	...	...	...	...	...	...	...	...
V.—Miscellaneous:—								
a. Fines and forfeitures	...	22 0 0	...	...	...	...	0 1 6	22 1 6
b. Refunds	10 0 0	41 2 6	3 0 0	12 2 5	4 1 2	7 3 2	51 11 11	129 5 2
c. Other sources	117 1 7	0 0 6	582 3 9	15 13 6	36 6 6	370 3 3	0 11 0	1,122 8 1
Total Revenue ...	127 1 7	36,215 5 8	68,691 3 0	40,554 8 5	34,541 10 2	1,53,424 9 0	72,693 0 5	4,06,247 6 3

FORESTS.

Summary of Revenue and Expenditure of the different District Forests during 1887-88.

Budget Heads—Expenditure.	Direction Office.	District Forests. Akola.	Amraoti.	Buldana.	Basim.	Ellichpur.	Wun.	Total.
A.—CONSERVANCY AND WORKS.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
I.—Timber and other produce removed from the forests by Government agency:—								
a. Timber	...	...	..	...	...	...	...	...
b. Firewood and charcoal	...	...	...	..	...	...	...	...
c. Bamboos	...	...	...	...	...	...	...	...
d. Sandal-wood	...	...	...	...	...	...	...	...
e. Grass and other minor produce ...	...	...	...	...	...	...	...	...
II.—Timber and other produce removed from the forests by consumers or purchasers	590 6 11	2,071 14 8	2,644 12 6	3,572 5 3	3,975 3 9	1,162 7 7	7,736 2 3	21,775 4 11
III.—Confiscated, drift and waif wood ..	...	.	..	..	..	...	...	...
IV.—Revenue from forests not managed by Government:—								
a. Duty on foreign timber and other forest produce	...	...	...	...	...	...	...	...
b. Revenue from shared and private forests	...	...	...	...	...	...	...	...
V. Rent of leased forests and payments to shareholders in forests managed by Government	.	17,119 12 0	...	...	...	.	...	17,119 12 0
VI.—Live stock, stores, tools and plant:—								
a. Purchase of cattle	....	...	...	...	...	.	25 0 0	25 0 0
b. Feed and keep of cattle ...	976 11 4	915 7 11	0 14 6	...	...	949 12 7	636 15 11	3,479 14 3
c. Purchase of stores, tools and plant.	412 7 1	178 10 7	48 12 1	220 15 1	476 10 7	84 9 10	265 12 2	1,687 13 3
VII.—Communications and Buildings:—								
a. Roads and bridges	.	18,817 2 3	150 0 0	16 4 0	...	173 2 6	27 9 9	19,184 2 6
b. Buildings	8 12 0	2,267 4 0	67 3 0	33 0 0	1,094 10 5	94 8 0	1,149 7 0	4,684 12 5
c. Other works	2 10 0	209 3 6	19 2 0	...	1 0 0	...	5 0 0	237 4 6
VIII.—Demarcation, improvement, and extension of forests:—								
a. Demarcation	...	100 4 6	1,873 4 0	41 3 0	93 5 6	117 8 6	144 11 0	2,370 4 6
b. Compensation for land and rights...	...	...	...	...	...	...	...	..
c. Surveys and working plans ...	.	54 9 0	...	...	...	...	...	54 9 0
d. Sowing and planting	7 0 0	567 8 8	556 2 0	97 7 3	10 5 4	699 9 11	1,515 9 11	3,453 11 3
e. Protection from fire	.	2,397 5 6	353 2 8	47 3 0	217 7 0	885 15 6	1,473 7 8	5,376 6 4
f. Other works	...	...	...	7 6 6	26 6 0	...	100 8 11	134 5 5
IX.—Miscellaneous:—								
a. Refunds	...	29 8 0	163 15 0	13 5 3	...	..	20 12 0	227 6 2
b. Law charges	...	...	...	...	...		...	...
c. Other charges	144 8 11	486 5 10	57 7 10	76 10 9	134 11 8	121 0 1	138 8 4	1,149 5 5
Total A.—Conservancy and Works ...	2,142 8 8	45,215 5 6	5,936 11 7	4,125 11 1	6,019 12 3	4,258 10 6	12,261 8 11	80,960 4 42
B.—ESTABLISHMENT.								
I.—Salaries:—								
a. Conservators	16,153 8 0	...	...	...	...	...	...	16,153 8 0
b. Superior officers	...	7,749 5 8	4,571 6 3	5,946 10 8	2,400 0 0	2,612 3 0	2,500 0 0	25,779 9 7
c. Subordinate Forest and Depôt establishments	...	15,705 2 3	2,322 0 2	3,714 2 3	2,845 5 10	4,376 0 6	4,454 8 8	33,417 3 3
d. Office establishments	3,405 4 1	2,636 4 6	672 8 4	379 3 10	517 3 10	821 2 5	1,010 10 3	9,742 4 3
e. Deputation and special allowances...	..	...	...	...	...	...	.	...
II.—Travelling allowances:—								
a. Conservators...	1,395 1 0	.	.	.	..	..	.	1,395 1 0
b. Superior officers	...	1,466 0 0	806 10 0	441 0 0	508 2 8	377 0 0	626 2 8	4,226 15 4
c. Subordinate Forest and Depôt establishments	...	1,603 9 4	303 2 8	823 6 0	707 4 4	490 4 8	749 1 4	4,688 14 4
d. Office establishments	211 9 4	265 0 8	108 1 4	84 9 0	165 2 8	145 13 4	185 2 0	1,263 6 4
III.—Contingencies:—								
a. Stationery	131 2 6	184 2 2	28 3 4	61 3 0	79 7 3	97 8 3	72 9 5	645 3 12
b. Carriage of tents and records ...	339 10 2	404 7 3	325 4 9	146 12 6	264 6 2	280 10 8	330 4 0	2,091 7 6
c. Rents, rates, and taxes... ...	...	400 0 0	260 0 0	...	...	...	180 0 0	840 0 0
d. Pay of Police guards	.	...	..	...	..	...	...	...
e. Official postage	268 0 0	309 14 6	49 9 6	64 9 6	65 7 6	49 11 0	27 4 0	854 8 9
f. Sundries	151 9 8	252 15 5	65 2 10	108 15 6	57 11 1	149 2 3	159 12 1	949 0 10
Total B.—Establishments ...	22,065 12 9	30,976 11 9	9,684 1 2	11,767 7 3	7,901 3 4	9,479 8 1	10,295 6 5	1,02,200 2 9
Grand Total of Expenditure ...	24,208 5 0	76,192 1 3	15,620 12 9	15,893 2 4	13,920 15 7	13,738 2 7	22,556 15 4	1,83,160 6 10

A.—Being the amount deducted from "Salaries" instead of from "Travelling allowances" in the summary of Direction Division for January 1888, now rectified as above.

COMPTROLLER'S OFFICE,
BOLARUM,
The 23rd June 1888.

T. H. S. BIDDULPH,
Comptroller,
Hyderabad.

FORESTS.

Dr. *Cr.*

FORM No. 59.—*Account-Current of the Forest Department, Hyderabad Assigned Districts, for the year* 1887-88.

	Rs.	a.	p.	Rs.	a.	p.
To Cash Balance...				3,260	9	6
„ IX, Forests (Revenue as per annual summary), Form No. 58	4,06,247	6	3			
„ Service Funds	856	14	3			
Forest Cash Remittances, Local—						
Forest cheques drawn	1,76,629	1	7			
Inter-divisional transfers	848	9	8			
				5,84,581	15	9
To Advances recoverable	64,97	6	8			
„ Suspense	...	...	...			
„ Cash Recoveries	377	10	8			
„ Account-Current (Other Governments) ...	4,919	11	6			
„ Inter-departmental transfers	535	10	10			
				70,130	7	8
Total ...				6,57,973	0	11

	Rs.	a.	p.	Rs.	a.	p.
By 11, Forests (Expenditure as per annual summary), Form No. 58	1,83,160	6	10			
„ *Forest Cash Remittances, Local—*						
Remittances to treasuries	4,04,001	15	4			
Inter-divisional transfers	848	9	8			
Cancelled cheques	3,945	10	3			
				5,91,956	10	1
„ Advances recoverable	59,943	0	7			
„ Suspense	...	...	...			
„ Cash Recoveries	787	10	8			
„ Account-Current (Other Governments) ...	1,538	4	7			
„ Inter-departmental transfers	2,967	8	0			
				65,236	7	10
„ Cash Balance...				779	15	0
Total ...				6,57,973	0	11

FORESTS.

ANNUAL FORM No. 60.—*Revenue received and Outstandings on account of Revenue during* 1887-88.

Division.	Particulars.	Outstandings at commencement of year.	Value of sales and other revenue during year			Total			Amount realized during year.			Balance due to the Department at end of year
			Rs	a	p.	Rs	a.	p	Rs.	a	p.	
Direction	Miscellaneous other sources ..	...	127	1	7	127	1	7	127	1	7	...
Ellichpur ...	Timber and other produce ...	...	1,53,424	9	0	1,53,424	9	0	1,53,424	9	0	...
Amraoti ...	Do.	...	68,691	3	0	68,691	3	0	68,691	3	0	...
Akola ...	Do.	...	36,215	5	8	36,215	5	8	36,215	5	8	...
Buldana ...	Do.	...	40,554	8	5	40,554	8	5	40,554	8	5	..
Basim ...	Do.	...	34,541	10	2	34,541	10	2	34,541	10	2	...
Wun ...	Do.	...	72,693	0	5	72,693	0	5	72,693	0	5	...
	Total ...	...	4,06,247	6	3	4,06,247	6	3	4,06,247	6	3	

ANNUAL FORM No. 61.—*Outstandings and Liabilities on account of Contractors and Disbursers for* 1887-88.

Division.	Department Debtor				Department Creditor.								Balance due			
	At commencement of year.	Recoveries in cash and value of supplies and work done during year.			At close of year			At commencement of year.			Payments made during year			At close of year			To Department [Outstanding.]			By Department (Liabilities)
		Rs.	a.	p	Rs	a	p	Rs.	a	p	Rs.	a.	p	Rs.	a	p.	Rs	a	p.	Rs. a. p.
Akola Division	...	9,680	12	3	9,680	12	3	2,074	15	4	7,838	6	8	9,913	6	0	232	9	9	...
Amraoti "	...	b+46	10	8	b+46	10	8	1,149	5	11	6,365	4	2	b+46	10	8	454	4	4	1 0 2
		7,061	14	11	7,061	14	11	a+32	8	8	b+46	10	8	7,514	10	1				
		a+32	8	8	a+32	8	8							a+32	8	8				
Basim " ...		8,279	8	9	8,279	8	9	1,149	15	10	7,861	4	0	9,011	3	10	731	11	1	...
Buldana " ..	...	7,675	12	4	7,675	12	4	1,004	4	7	8,373	2	9	9,377	7	4	1,701	11	0	..
Direction "	...	1,986	5	2	1,986	5	2	105	9	10	1,895	1	8	2,000	11	6	14	6	4	...
Ellichpur " ..	...	18,496	10	1	18,496	10	1	5,410	14	4	16,339	10	10	21,750	9	2	3,440	3	1	...
Wun " ..	...	11,032	3	10	11,032	3	10	...			b+186	4	0	b+186	4	0	...			...
		b+5	0	0	b+5	0	0				11,032	3	10	11,032	3	10				
											b+5	0	0	b+5	0	0				
Total	.	64,297	6	8	64,297	6	8	10,927	10	6	59,343	0	7	70,870	11	1	6,574	13	7	1 9 2

a. Advance made to Pandurung Narayen on transfer to School Circle, Dehra Dun, and omitted to be brought on the Amraoti District Disburser's Ledger for 1886-87 The amount has been recovered by the Superintendent, Forest School, Dehra Dun, and credited to this Administration in the exchange account current for October 1887.

b Departmental transfers made in this office during the year 1887-88.

ANNUAL FORM No. 62.—*Financial results of the year* 1887-88.

Division.	Timber and other produce removed from the forests by Government agency.		Other revenue.		Formation, protection, and improvement of forests.	Total.	
	Receipts	Charges	Receipts.	Charges.	Charges	Receipts.	Charges.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Direction	...	...	127	18,349	5,889	127	24,238
Ellichpur	...		1,53,425	43,761	32,432	1,53,425	76,193
Amraoti	...	...	68,691	10,167	5,454	68,691	15,621
Akola	...	...	36,215	12,653	3,240	36,215	15,893
Buldana	...	...	40,554	10,383	3,538	40,554	13,921
Basim	...	...	34,542	9,169	4,568	34,542	13,737
Wun	...		72,693	16,335	7,222	72,693	23,557
Total ...	...	...	4,06,247	1,20,817	62,343	4,06,247	1,83,160

FORESTS.

Appendix A.—*Cattle grazed in B. Demarcated State Forests, District Reserved Forests and District Unreserved Forests.*

Division.	Class of Forests	Year.	Camels.	Buffaloes.	Cows and bullocks.	Sheep and goats.	Total
Ellichpur...	*District Reserved Forests.*						
	Bairam Grazing, Tract in Ellichpur Taluk.	1886-87		1,227	8,200	2,832	12,259
		1887-88	...	161	2,494	2,946	5,601
	Woods in Ellichpur and Daryapur Taluks.	1886-87	...	...	.	..	...
		1887-88	...	3,455	15,124	...	18,579
	District Unreserved Forests.						
	Melghat (Ellichpur) and Betul (Central Provinces).	1886-87	...	5,460	24,252	4,683	34,395
		1887-88		5,897	26,827	4,064	36,788
	Ellichpur and Daryapur of Ellichpur.	1886-87	66	5,641	32,387	43,826	81,920
		1887-88	50	5,460	36,476	43,735	85,721
	Akot and Jalgaon of Akola ...	1886-87	...	3,456	28,067	5,851	37,374
		1887-88	4	3,177	28,917	7,034	39,132
		1886-87	66	15,784	92,906	57,192	165,948
		1887-88	54	18,150	109,838	57,779	185,821
Amraoti ...	Demarcated State Forests ...	1886-87	.	1,625	5,773	4,085	11,483
		1887-88	...	1,354	6,984	9,570	17,908
	District Reserved Forests ...	1886-87	3	27,445	107,438	55,601	190,487
		1887-88	..	27,822	117,272	76,474	221,568
		1886-87	3	29,070	113,211	59,686	201,970
		1887-88	...	29,176	124,256	86,044	239,476
Akola ...	Demarcated State Forests ...	1886-87	.	865	11,949	...	12,814
		1887-88	.	478	7,761	...	8,239
	District Reserved Forests ...	1886-87	...	181	1,044	312	1,537
		1887-88	...	9,041	68,569	22,105	99,715
		1886-87		1,046	12,993	312	14,351
		1887-88		9,519	76,330	22,105	107,954
Buldana ...	Demarcated State Forests ..	1886-87	...	1,151	11,125		12,276
		1887-88	...	1,399	15,974	...	17,373
	District Reserved Forests ...	1886-87	...	...	...		...
		1887-88	...	19,984	125,677	89,253	234,914
		1886-87	...	1,151	11,125	...	12,276
		1887-88		21,383	141,651	89,253	252,287
Basim ...	Demarcated State Forests ...	1886-87	...	364	6,968	...	7,332
		1887-88	..	421	8,016		8,437
	District Reserved Forests ...	1886-87	...	59	1,542	...	1,601
		1887-88	.	20,011	139,754	41,761	201,526
		1886-87	...	423	8,510	...	8,933
		1887-88	...	20,432	147,770	41,761	209,963
Wun ...	Demarcated State Forests ..	1886-87	...	603	16,146	...	16,749
		1887-88	...	707	20,295	...	21,002
	District Reserved Forests ..	1886-87	...	45,568	277,645	86,851	410,064
		1887-88	...	49,250	295,910	91,756	436,916
		1886-87	...	46,171	293,791	86,851	426,813
		1887-88	...	49,957	316,205	91,756	457,918
	Total ...	1886-87	69	93,645	532,536	204,041	830,291
		1887-88	54	148,617	916,050	388,698	1,453,419

Extract from the Proceedings of the Resident at Hyderabad, No. 2941-R., *dated Hyderabad Residency, the 20th October* 1888.

Read—

The Report on Forest Administration in the Hyderabad Assigned Districts for the year 1887-88.

RESOLUTION.

A decrease of 25 square miles in district unreserved forests was the only change effected in the forest area in the year under report.

It may be hoped that Mr. Bagshawe's careful work of 1881—1883 in the demarcation of grazing areas for villages will be continued. Good results have apparently been shown by following out his recommendations in the Amraoti and Ellichpur Districts, and similar results would probably have been attained in the Wun District had the rules in force not been disregarded. Rules for the three remaining districts have recently been called for under instructions from the Government of India. It seems certain that unless some scheme is drawn up and sanctioned, land will continue to be given out for cultivation until none remains for grazing.

2. The survey of the Melghat seems to have been completed in a satisfactory manner, and the thanks of the Resident are due to Messrs. Reynolds and Litchfield and staff for their good work during the progress of the survey. It is to be hoped that all the maps will soon be published.

3. It is an established fact that, prior to the first attempt at forest conservancy in the Melghat in 1864, the forests had been really destroyed as far as valuable teak trees were concerned. Only 24 years have elapsed since then, and the oldest reserve—the Bairagarh—has only been successfully protected from fire since 1872. Under these circumstances it cannot be expected that large teak trees can be found, except in the most inaccessible ravines. The Melghat reserves still require rest for many years; and unless the forest officers can fell, season, and create a demand for trees other than teak, it will be better to confine operations to the coppicing of teak trees and to the sale of the goles from their branches. Coppicing was carried out between Sembahdoh and Kolkaz on both sides of the Sipna river some years ago by Mr. Ballantine with good results.

4. Since the receipt of the Conservator's report, the appointment of an additional Sub-Assistant Conservator on Rs. 250 per mensem has been sanctioned by the Government of India, so that there is no longer ground for the complaints made in paragraph 29 of the report. The application for an increase of establishment (noticed in paragraphs 33 and 34) was refused by the Resident, who was unable to consider that, on the special proposals submitted by the Conservator, a case had been made out. It is hoped that the Conservator has put a stop to the practice mentioned in his 32nd paragraph.

5. There was a small decrease in the number of persons prosecuted for breaches of the forest law. It is clear that the people are not unduly harassed. The percentage of convictions to prosecutions having been 82·17, it is hard to see what ground district forest officers have for complaining of the difficulty of proving forest cases. The complaints made by the Conservator in his paragraph 39 should not have been repeated. Allegations of a merely general nature are as a rule futile; indeed in a special case brought to notice in the report of the preceding year it transpired that the Conservator's complaints were quite groundless.

6. It is noted with satisfaction that the Melghat forests have been successfully protected from fire owing probably to the amicable relations established by Mr. Ballantine. It thus seems that the policy of conciliation introduced (by Messrs. Ballantine and Drysdale on the one hand and Colonel Mackenzie on the other,) between the people and the different Government officials has been maintained. Fire protection has been continued with success in the Akola and Basim

Districts, and there is a slight improvement in Amraoti. In Buldana there is a decided falling-off. In Wun fire protection is still a failure, and the results shown are far worse than last year. This is to be greatly regretted. The Conservator seems to think that the civil officials of that district are apathetic as regards fire protection. This is a grave charge and should have been substantiated by facts before being brought forward. What the facts actually were should now be explained. Experience in the Melghat proves that where the civil authorities, the forest officers, and the inhabitants are in one accord as to the value of fire protection, it is practicable to preserve forests from fire. There are no reasons why similar results should not be attained in the Wun District if only amicable relations between the civil and forest officers be maintained and if, in demarcating the forests, special care be taken that the immemorial rights of the people be not unduly interfered with.

7. It is understood that the farming of grazing lands has already been discontinued throughout the province, and that the system of grazing with passes has been generally introduced. The estimate of the tonnage of grass removed by grazing will be awaited with interest; but some five or six years at least must elapse before any approach to accurate statistics can be expected, nor will it ever be possible to check them. Berar has already been not a little remarkable for statistics containing a large element of speculation.

8. Until the Conservator has had an opportunity of thoroughly inspecting the whole of the Melghat reserves, his opinions as to the general failure of natural reproduction cannot be accepted. The "tiwas" growth on the Makla plateau alone would seem to indicate that, where fire protection has been successfully maintained for twelve or fourteen years, natural reproduction is most successful. It seems a pity that the system introduced by Mr. Ballantine of having suitable nurseries of teak, bamboo and other trees was not more vigorously prosecuted. The seedlings when sufficiently strong were under this system planted out, and when the trees were not in too exposed a position, they thrived. Now that the forest net revenue is so large, the Resident will be prepared to consider any well worked out plan for establishing such nurseries with a view to stocking reserves other than the Melghat. As regards plantations of gum and fruit trees, it seems unlikely that there will be enough of them planted by the Forest Department to do any harm to private trade. The Resident agrees with the Conservator's opinions as to broadcast sowing over large areas. As a rule the results are *nil*, for though the seeds germinate during the rains, the seedlings do not strike sufficiently deep into the soil, and hence they mostly die off during the early part of the hot weather. In addition to the nurseries above suggested, the Conservator might make a careful experiment in a few selected acres and see whether better results cannot be attained by preparation of the soil prior to sowing.

9. The work on roads was satisfactory, but a sketch plan on a scale of four miles to the inch, showing all the forest roads in the Melghat, should have accompanied the report. The Conservator only gives the money expended by the Forest Department on roads, and does not take into account that expended by the Public Works Department. The appended table shows this, as also the amount spent on tanks and anicuts in the Ellichpur and Amraoti Districts. It will thus be seen that the Melghat has had no inconsiderable sum spent on it during the last thirteen years.

10. The bulk of the forest produce certainly comes from the unreserved forests, but it must not therefore be inferred that they are better wooded than the reserved ones. Such is not the case, especially in the Melghat. The great danger is that too much revenue may be expected from the latter, and that in consequence they may be hacked to pieces in a reckless manner at no very distant date. As already stated, these reserves want rest, and the only revenue should be that obtainable from the sale of trees other than teak, from coppicing old trees, teak goles, bamboos, and grass. The sale of goles might perhaps be greatly increased by stocking them at some central point or depôt.

11. The question of light grazing is a very difficult one. It is understood that light grazing was permitted in the reserves in the plain districts (never in the Melghat), because for many years previously the record of protection from fire had been extremely bad. Since its introduction, by enlisting the sympathies

of the people (except possibly in the Wun District), the area enjoying immunity from fire has greatly increased. But when it is urged that light grazing is positively beneficial on its own account, then, though experts differ, the Resident would rather maintain the view put forward in the present report. It would undoubtedly be a good thing to stop all grazing, light or otherwise, in forest reserves; but this cannot be done until full information as to local areas, cultivated and uncultivated, is forthcoming. In any case the Resident would not encourage the extension of timber reserves to the detriment of grazing areas which the Conservator rightly declares to be "the life of the people." Berar is mainly an agricultural country and may safely indent for large timber on the forest tracts of Baitrol and Nimar, where land is far less valuable for agriculture. As regards the supply of grass between October and June, it may be hoped that ere long some enterprising Firm will be found to set up a small press for the production of compressed hay. Thus the wealthier plain districts of Berar might be able to indent on distant jungle tracts for their hot weather supplies.

12. The financial results were on the whole good; indeed the revenue for the past year was unprecedented. In Berar the forest revenue is an excellent barometer of the prosperity or otherwise of the Kunbi, as good crops mean a good demand for forest produce. The total receipts amounted to Rs. 4,06,247, and the surplus of revenue over expenditure, Rs. 2,23,087, was the highest on record. Rs. 2,08,667 were received for grazing and fodder grass, against Rs. 1,72,249 in 1886-87. Under other heads generally a satisfactory increase took place.

13. On the whole the Resident is much pleased with Mr. Whittall's intelligent and suggestive report, and especially with the financial results of the year. While it is admitted that much remains to be done and that forest conservancy in Berar, except in the Melghat, is in its infancy, Mr. Howell is confident that further progress will be secured if only the Conservator will arrange during the ensuing cold season to inspect the whole of the forests and substitute views gained on the spot for theoretical speculations based on experience derived from other provinces.

14. In his commendable zeal for the department over which he presides, the Conservator writes as though the forests of Berar, with the Gonds and Kurkus who dwell therein, had been created for the Forest Department. This is, of course, an obvious inversion of the facts. Mr. Howell understands that in Berar, as elsewhere, the Forest Department has been created for the permanent benefit and convenience, in respect of forests and forest produce, of the people, who are too ignorant and shortsighted to postpone immediate to permanent interests. Now it would certainly be very inconvenient for the 70,000 Gonds and Kurkus who occupy what is left of the forest tracts in the Melghat to be improved off the face of the earth, whatever might be the consequent amplification of departmental areas. Already some 600 square miles of the best forest land has been absorbed by the department, and the Officiating Resident is of opinion that the process of absorption has gone far enough, that the Gonds and Kurkus should be no further molested, and that the area of the Melghat reserve should be no further extended. This view is supported by the weighty authority of Sir D. Brandis, who actually abandoned the western portion of the Gugamal Reserve in 1877-78. By all means let well considered communications be made and maintained, for these open up distant markets and are specially beneficial to the communities adjacent to them; but let the principle above propounded be the test and standard of all such proposals as the Conservator puts forward with reference to the extension of the Melghat reserve. What the Berar forest reserves clearly require now is not expansion, but care and consolidation. Indeed the inexpediency of ill-considered expansion is only too clearly demonstrated by the state of things in Wun.

(By order.)

G. S. FORBES,

Secretary for Berar.

Statement of Expenditure on certain Roads and Tanks in the Melghat and in the Amraoti District during the years 1874-75 to 1887-88 inclusive.

	1874-75.	1875-76.	1876-77.	1877-78.	1878-79.	1879-80.	1880-81.	1881-82.	1882-83.	1883-84.	1884-85.	1885-86.	1886-87.	1887-88.	Total.	Remarks.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
Ellichpur-Peli Road	1,636	10,562	39,308	33,678	64,631	88,139	48,848	34,283	3,904	931	...	...	...	*12,564	3,38,484	Ellichpur District.
Ghatang-Chikalda Road ...	...	...	...	...	...	...	5,088	12,823	...	662	...	...	...	†2,852	21,425	Ellichpur District.
G[illegible] Forest Road... ...	...	...	...	...	...	...	...	...	...	...	...	23,613	93,307	78,196	1,95,116	Ellichpur District.
Melghat Anicuts	...	...	...	...	...	...	...	...	3,088	6,971	14,139	9,168	4,521	3,738	41,625	Ellichpur District.
Mardi Tank	...	...	...	...	...	...	...	...	...	6,770	16,233	12,048	2,165	...	37,216	Ellichpur District.
Porah Tank	...	...	...	...	...	...	...	...	...	127	5,019	17,729	3,240	...	26,115	Amraoti District.
Irgohan Tank	...	...	...	...	...	...	...	...	5,201	10,583	3,253	...	...	..	19,037	Amraoti District.
Total ...	1,636	10,562	39308	33.678	64,631	88,139	53,936	47,106	12,193	26,044	38,644	62,558	1,03,23[illegible]	97,350	6,79,018	

* Expenditure on additional bridges.
† Additions to dāk and inspection bungalow.

No. 124 F., dated Calcutta, the 7th February 1889.

From—SIR E. C. BUCK, *Secretary to the Government of India,*

To—*The Resident at Hyderabad.*

I AM directed to acknowledge the receipt of your letter No. 460 G., dated the 29th October last, forwarding the Progress Report of Forest Administration in the Hyderabad Assigned Districts for the year 1887-88, with the Commissioner's remarks and your Resolution thereon.

2. The only change which, during the year under review, took place in the constitution of the Government forest estates consisted in the decrease of District Forests, 25 square miles of which were thrown open to cultivation. It is undoubtedly a matter of importance to the general wealth of the State that as large an area as is compatible with other paramount interests should be made available for permanent cultivation; but, in order to enable the authorities to do so with justice to all interests, it seems to the Government of India to be necessary to proceed on a preconsidered principle and plan.

The position was correctly gauged as far back as 1881, and it was then decided to separate the forest estates of the Province into Reserves, principally destined to meet in perpetuity the existing and growing requirements of the people and the State in forest produce, into areas which should be always maintained as grazing-grounds, and into tracts available for and adapted to permanent cultivation. This separation was never completed, and His Excellency the Governor General in Council is, therefore, pleased to observe that you intend continuing this useful work, which was so well begun in the years 1881 to 1883, for it seems evident, from a study of Form No. 49, that considerable tracts in the Province are still insufficiently provided with Reserves for the production of timber and wood, and the permanent maintenance of an adequate area as grazing ground is not yet ensured in the Buldana, Basim, and Akola Districts.

3. The Government of India has read with regret that the rules in force for the maintenance of grazing areas were disregarded by the Deputy Commissioner of Wun, who alienated, without your authority, 1,675 acres of the areas set apart for pasture. It is hoped that steps will be taken to render a repetition of similar action impossible.

It may happen that the requirements for grazing grounds may decrease, as the habits of life of the population change in consequence of extended cultivation and the growth of fodder crops, but till this occurs, or at least until a tendency shows itself in this direction, the areas set apart for grazing must be maintained apart from timber reserves. It may be advisable even at this stage, in order to economize the existing fodder resources, to close portions of the permanent grazing grounds for pasture and only to permit the removal of fodder by hand. The Reserves also may in this way be made to yield considerable quantities of cut grass, but experience has now proved that it is dangerous to utilize them as freely as was intended by the introduction into the plains Reserves of the so-called light grazing, which has been noticed at length in the Appendix to the Conservator's Report, in the Commissioner's review, and your Resolution. It is only four years since the Reserves in the plains Districts were thrown open by the Conservator to limited pasture, but their re-closure would already seem to present difficulties. These, it is hoped, may be overcome, and the Government of India awaits the results of further enquiries.

In case, however, you should consider that the permission to graze a limited number of cattle ought to be granted in order to enlist the sympathies of the people, and thereby to ensure an immunity from fire, I am to ask you to consider whether it would not be preferable to close certain areas entirely until their reproduction is ensured, and then, in turn, to protect others till the young growth within them has been established. Many of the forest estates concerned have been ruined by mismanagement in former years, and this fact must be weighed in considering the question of their closure against grazing.

4. The Government of India has noticed with concern the serious forest fires which took place again in the Wun District. The area burnt over amounted to 22 per cent. of the forests under protection in the year under review, to 12 per cent. in 1886-87, and 16 per cent. in 1885-86. This is not satisfactory. The District no doubt contains in the vicinity of the reserves large areas of uncultivated land liable to annual conflagration, and the danger from without is consequently exceptionally great. With more special reference, therefore, to this District, I am to suggest the issue of a Circular pointing out to District and Police Officers their duties in connection with fire-protection, not only in regard to Reserves themselves, but also to forests in the vicinity of fire-protected areas endangered by the unrestricted burning of the open forests. A similar Circular was recently issued in the Central Provinces and with the best results. Apart from the failures in the Wun District, fire-protection has been fairly successful during the year, and the Government of India is pleased to notice the usual immunity from fires in the Melghât.

5. It would seem that previous Reports on natural reproduction have in many instances been too optimist, and that successful germination has frequently been mistaken and noticed as successful reproduction; but it is hoped that the divisional reports epitomized in paragraphs 56 to 58 of the Conservator's Report represent, on the other hand, as is believed by you, a too pessimist view of the case. The subject should be noticed at some length in an Appendix to next year's R eport.

Forest Conservancy in India, concerned as it is with large areas which yield a comparatively small revenue per acre, must, in regard to the maintenance and improvement of the forests under the care of the Forest Department, mainly rely on natural reproduction, which can to a very small extent only be assisted by artificial measures. Broad-cast sowings on entirely unprepared soil, though an extremely cheap operation, fails almost invariably and has, therefore, been correctly abandoned as involving waste of money. The Government of India agrees with you that the cultivation of trees specially valuable for their fruit, leaves, flowers, bark, or gum falls within the sphere of the Forest Department, and that the production of minor forest produce is frequently of as great and even greater importance, from an economical as well as financial point of view, than that of timber.

6. The Raipur-Makhla forest was exploited for the first year under the Working-Plan. The area-check which was applied under the advice of the Inspector General of Forests reduced the estimated outturn by 42 per cent., and thereby proved that the fear that the Working-Plan was based on insufficient data was apparently well founded, though it is of course still possible that the error in overestimating the annual possibility of the forest, which was brought to light by the first year's exploitation, may to some extent be rectified by the results of the working of future years.

With reference to paragraph 68 of the Report, I am to state that it is of no practical importance whether in doubtful cases Revenue and Expenditure in connection with the extraction of forest produce is shown under R. II. and A. II., or R. I. and A. I.; but the main principle with regard to this classification is that no Expenditure or Revenue should be shown against A. I. and R. I., so long as the material with the production and sale of which either is connected has not been entered in a depôt return.

7. The following table compares the financial results of the year under review with those of 1886-87 :—

Year.	Receipts.	Charges.	Surplus.	Proportion of Surplus to gross Revenue.
	R	R	R	Per cent.
1887-88	4,06,247	1,83,160	2,23,087	55
1886-87	3,26,261	1,71,704	1,54,557	47
Increase in 1887-88 . .	79,986	11,456	68,530	8

The proportion of Surplus to gross Revenue increased by 8 per cent.

8. The Conservator's Report contains much that is interesting, and gives evidence of Mr. Whittall's zeal in the service of the State, which deserves the recognition justly accorded by you. In conclusion, I am to convey the thanks of the Government of India for the interest you continue to take in the management of the forests in Berar, as is evinced by your searching review of the Conservator's Report.

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